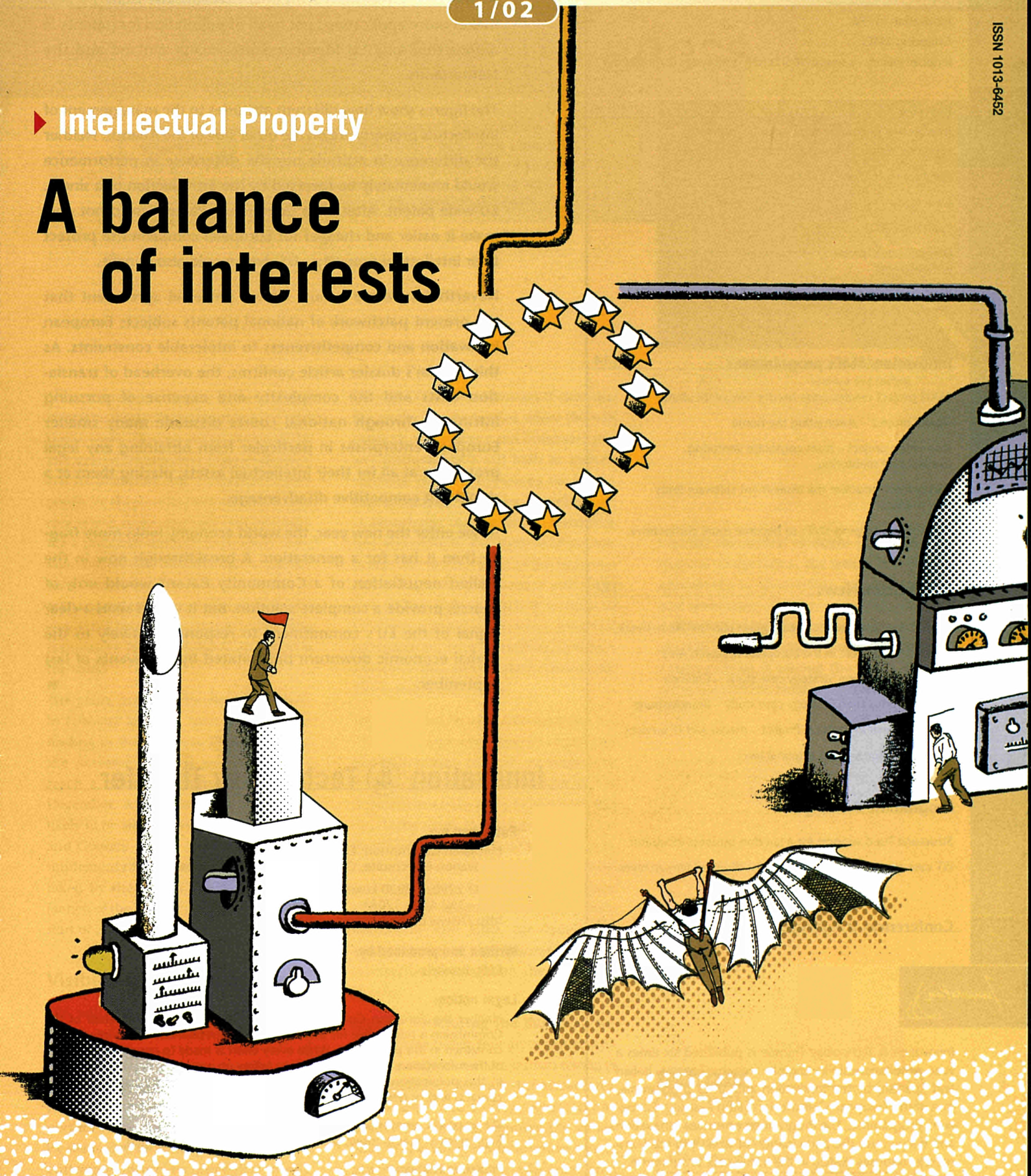
Innovation & Technology Transfer

1/02

ISSN 1013-6452

Intellectual Property

A balance of interests



PUBLISHED BY THE EUROPEAN COMMISSION • INNOVATION/SMEs PROGRAMME • JANUARY 2002

Contents

Innovation & Technology Transfer is published six times a year, simultaneously in English, French, German, Italian and Spanish, by the Innovation and SMEs programme, part of the European Commission's Fifth Research Framework Programme. The Programme promotes innovation and encourages the participation of small and medium-sized enterprises (SMEs) in the framework programme.

Patent positive

As the 2001 Innovation Scoreboard reveals, the United States makes more applications per head of population for patents *in Europe* than any EU Member State except Finland and the Netherlands.

The figures show how different attitudes to the management of intellectual property are on the other side of the Atlantic. Neither the difference in attitude nor the difference in performance would immediately be reversed by the introduction of a single, EU-wide patent. After all, a Community Patent would not only make it easier and cheaper for European companies to protect their intellectual property – US rivals would also benefit.

Nevertheless, there is now almost universal agreement that the present patchwork of national patents subjects European innovation and competitiveness to intolerable constraints. As this edition's dossier article confirms, the overhead of translation costs and the complexity and expense of pursuing infringers through national courts dissuade many smaller European enterprises in particular from obtaining any legal protection at all for their intellectual assets, placing them at a significant competitive disadvantage.

As we enter the new year, the world economy looks more fragile than it has for a generation. A breakthrough now in the stalled negotiation of a Community Patent would not, of course, provide a complete solution. But it would send a clear signal of the EU's commitment to respond positively to the global economic downturn precipitated by the events of last September. ≡

Innovation & Technology Transfer

Published by:
European Commission, Enterprise DG,
Innovation Directorate, Communication and Awareness Unit

EUFO 2290, L-2920 Luxembourg
Fax: +352 4301 32084
http://www.cordis.lu/itt/itt-en/home.html

Written and produced by:
ESN, Brussels

Printed in Belgium

Innovation in FP6

Research for competitiveness

Plans for the Sixth Research Framework Programme, intended for launch at the end of this year and covering the period to 2006, are now well advanced. They promise a major step forward in Europe's efforts to bring new scientific knowledge to bear on the practical needs of enterprise and society.

Innovation – at the interface between science and society.

"As a political priority, innovation's visibility will be markedly increased in FP6," says Giulio Grata, Director of Innovation in the European Commission's Directorate-General for Enterprise. The Commission's proposals for the new Framework Programme conceive it as the principal tool for building a European Research Area (ERA). They state that research and innovation, co-ordinated across the European Union, will be twin engines of its drive to become, "by the end of the decade, the most successful and competitive knowledge-based economy in the world".

The plans, proposed by the Commission in February last year, have had their first reading in the European Parliament, and the Research Council was expected to reach a common position on them in December. A final text and budget are likely to be adopted jointly by Parliament and Council in mid-2002. Decisions on implementation mechanisms will be taken by the end of the year, with the launch of the first calls for proposals at the start of 2003.

Visible and verifiable

FP6 will comprise two main programmes[1], with innovation a prominent component of each.

The first, Integrating and strengthening the **European Research Area**, covers support for research activities in seven priority fields, and for underpinning science to anticipate future technological needs. Here, the Commission makes it clear that the research to be funded under the new network of excellence and integrated project instruments[2] will have to include verifiable plans for exploiting the knowledge produced, involving activities such as knowledge management, dissemination and transfer, and analysis of the economic and social impact of the technologies concerned. Most projects will therefore include activities similar to those of FP5's accompanying measures, involving entrepreneurs, local authorities, investors, end-users and other stakeholders alongside research contractors.

This programme also addresses the co-ordination and development of research and innovation policies, providing for further development of the work of the Trend Chart on Innovation in Europe and the Innovation Scoreboard, as well as more specific studies. It covers the benchmarking of innovation policy at national and regional levels, and will support exchange of experience between policy-makers as the basis for accelerated improvement of the environment for innovation throughout the European Union.

Second, **Structuring the European Research Area** covers four areas of activity – research and innovation, human resources and mobility, research infrastructures, and 'science and society'. Research and innovation aims to improve the coherence of the European innovation system as a whole, through stakeholder networks, regional innovation strategies and trans-regional co-operation, the testing of new approaches to innovation, information and assistance services, economic and technological intelligence activities, and analysis and evaluation. Europe's innovation culture is among the issues addressed under the heading of science and society. ≡

(1) In addition to Euratom, and the Joint Research Centre's nuclear and non-nuclear research programmes.

(2) See 'A new framework for European research', edition 3/01.

Contact

Innovation Help Desk
Tl. +352 4301 33161
Fx. +352 4301 32084
innovation@cec.eu.int
http://www.cordis.lu/rtd2002/

Finance for SMEs

Fools, angels and venture capitalists

"There is no shortage of funding for SMEs in Europe, but the terms and conditions attached can make access very hard." A recent high-level seminar on the European approach to financing innovative SMEs examined problems and best practices for companies and investors.

"In the present difficult economic climate, it is tempting to focus on the short-term agenda, but we must continue to look ahead," Erkki Liikanen told entrepreneurs and financiers. "The Lisbon goal of becoming the world's most successful and competitive knowledge-based economy remains the EU's top priority."

The ten-year Lisbon strategy defined at the March 2000 European Council[1] is based on dynamic economic growth as a means to stimulate job creation, innovation and social cohesion. Small and medium-sized enterprises (SMEs) represent over 99% of European companies and account for two-thirds of total employment. Their growth is vital to achieving the Lisbon aims, but is limited by their access to finance, especially during the early stages. For innovative companies, whose assets are largely intangible, and which may take several years to produce returns on capital, investors can be hard to find.

The October seminar in Louvain-la-Neuve, Belgium, was sponsored by the European Commission's Directorate-General for Enterprise. Examining the current limitations on finance for SMEs, it attracted more than 1,400 participants, half of whom head their own companies.

Sources of finance

Sources of development finance vary, depending on the amount and the conditions. Typically, the first round comes from 'friends, family and fools' prepared to risk relatively small sums because they believe in the person or the idea. The next source is often a bank or public sector development agency, or another entrepreneur willing to invest for several years as a business angel. Angels eventually want to exit, however, and venture capital funds (VCs) are likely to supply finance at this stage. Finally, an initial public offering (IPO) opens the company to shareholders in a stock exchange.

But there is a pronounced gap between early informal investors and VCs, which expect substantial influence and whose minimum investment level is too high for most small companies. Increasingly, SMEs choose a mixture of loan guarantees and debt-equity mixes, especially as banks are reluctant to invest in young firms, which offer them low profit and high risk.

Entrepreneurs' views

CEOs from SMEs in both high-tech and traditional sectors agreed widely that the €10bn of capital available to support SME development in Europe is sufficient – 5,000 start-ups receive private or public sector risk capital each year. The main difficulty is sourcing funds at the right time and with the right conditions. "Business angels are vital sources of both seed finance and business experience," said Erkki Liikanen, European Commissioner for Enterprise. "Their networks are expanding rapidly in Germany, the UK and France, but much more slowly elsewhere."

When VCs become involved, however, angels – whose earlier investment involves much greater risk – may become minority shareholders, with minimal influence. One solution is to oblige VCs to buy out angels' stakes. Innovative companies are also often taken over or merged with a larger technology company, which has advantages over market flotation.

Several seminar participants had benefited from public sector financing, but this commonly involves excessive administrative procedures. More welcome is public sector support in the form of loan guarantees. All agreed that the gap in access to finance is matched by a gap in access to sound advice, the best coming from experienced entrepreneurs rather than consultancies.

Political priorities

Serge Kubla, President of the Council of EU Industry Ministers, noted that only one in 500 SMEs succeed in gaining access to venture capital. About 40% of SME finance comes from banks as overdrafts, loans or leasing, but micro-finance – loans of less than €25,000 – is too costly for banks. Finance from the public sector, angels and VCs, he said, should all be developed. Mr Kubla also noted SMEs' concern about the discussions on the Basel II capital adequacy framework[2]. Proposed changes in the regulations are expected to introduce different charges for credit depending on the degree of risk, making SMEs and start-ups clearly vul-

There is a wide financing gap between family investment and venture capital.

nerable. But Rolf Breuer, President of Deutsche Bank, pointed out that current bank lending terms do not cover the margins of risk. Basel II will take effect in 2005, but banks are already changing policies to take it into account.

Hardwick Simmons, Chairman and CEO of Europe's high-tech stock exchange, Nasdaq, urged European players to "keep pushing toward a single market". The IPO, he said, should be a European process, not fragmented across national exchanges. The harmonisation of taxation was crucial.

Fabio Colasanti, Director-General of Enterprise DG, stressed that major Commission initiatives like the action plan on financial services still left much to do. "The best way forward," he said, "is through benchmarking, round tables and conferences to identify the changes needed." The theme was taken up by Research Commissioner Philippe Busquin, who looks to the 2002 Barcelona summit for initiatives on developing best practices, access to risk capital and tax convergence. "Innovative SMEs are only 4% of all SMEs, but account for 50% of new jobs, so they are a priority," he said. The new Research Framework Programme (2002-2006) will focus on areas where EU action gives the greatest added value, like genomics, nanotechnology and ICT. SMEs will be encouraged to join collaborative studies, even in midstream. "Europe's investment in R&D is too little, and too fragmented," he stressed.

Competition Commissioner Mario Monti pointed out that European SMEs benefit from an effective antitrust policy, which protects them from abuses of market power. The Commission has also set out a new state aid policy in relation to risk capital[3], adopted in May 2001. This permits public intervention to address market failures, where other investors consider the risk too great. A further proposal is expected to modernise the antitrust operational rules.

The European Investment Bank (EIB) does not fund SMEs directly, but through banks in Member States and some accession countries – as global loans, guarantees or equity holdings. In total, it has provided €15 billion in global loans to 150 financial institutions, to support 60,000 SMEs. EIB Operations Chief Jean-Christophe Laloux explained that the bank is now entering risk capital actions through the European Investment Fund, in start-up or seed capital funds. The EIB is also strengthening co-ordination with the Commission since its June 2001 agreement and the development of its Innovation 2000 Initiative[4].

Way forward

The conclusions of the conference, together with a Commission analysis of companies' access to finance[5] covering sources other than venture capital, were submitted to the Industry Council on 5 December, leading to a call on the Commission for action. Enterprise finance will continue to be dominated by bank lending, the Commission believes, but alternative sources will grow – and public sector guarantees should be used to increase significantly the availability of loans and equity finance. ≡

(1) See 'Radical response to a quantum shift', edition 4/00.

(2) For further information, see http://europa.eu.int/comm/internal_market/en/finances/banks/01-15.htm and http://europa.eu.int/comm/internal_market/en/finances/capitaladequacy/consultation.pdf

(3) State aid and risk capital, OJC 235 of 21 August 2001, available at http://europa.eu.int/comm/competition/oj_extracts/2001_c_235_08_21_0003_0011_en.pdf

(4) See 'Complementary funding', edition 5/01.

(5) Enterprises' access to finance. SEC (2001)1667, available from http://europa.eu.int/comm/enterprise/entrepreneurship/financing/index.htm

Contact

R. Aernoudt, European Commission
Enterprise DG
Promotion of Entrepreneurship and SMEs
Access to finance and Community programmes
Tl. +32 2 295 9186
Fx. +32 2 296 2154
rudy.aernoudt@cec.eu.int

Innobarometer

Innovation litmus test

"An innovation system with a European dimension boosts competitiveness and stimulates growth," says Jean-Noël Durvy.

An Innobarometer telephone survey completed in May 2001 questioned over 3,000 European business leaders regarding their concerns in the field of innovation. Trends shown by regularly repeated Innobarometer polls will complement the findings of the Innovation Scoreboard.

In the drive to create more openness to innovation, the European Commission conducted a 'flash' survey in order to understand prevailing attitudes among leading executives. Respondents were asked for their opinions about the impact of European integration on access to new technologies, the mobility of qualified staff, dissemination of knowledge, access to financial resources, and customer acceptance of innovations. As a snapshot of current thinking, Innobarometer provides an indication of the degree of Europe's openness to the innovation culture. It is intended to stimulate public debate and promote innovation across the European Union.

Main findings

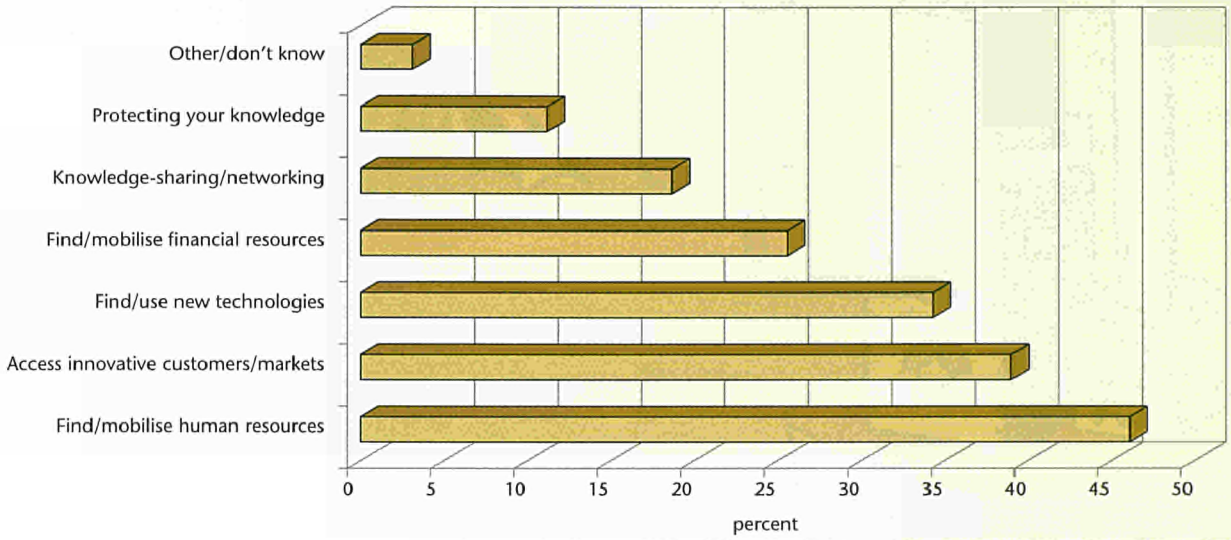
"This is the first time we have run the Innobarometer survey, so any conclusions drawn from it require confirmation," explains Jean-Noël Durvy, head of the Innovation policy unit at the Directorate-General for Enterprise. "We organised it in such a way as to complement the Innovation Scoreboard[1]. Some of the statistical data on which the Scoreboard is based were collected a few years ago, so we decided to carry out a straw poll to highlight current thinking among entrepreneurs. It was important for us to see how well they are adapting to the European dimension. The results show clearly contrasting viewpoints across Europe. There were no real surprises, but the survey confirmed that many managers, particularly in southern Europe, expect European integration to assist innovation in their regions a great deal."

The main conclusions from the survey are:

- Managers regard their companies as innovative performers. Some 90% rate themselves as good as or better than their main rivals in terms of innovation. However, they perceived change to be slow. Though two out of every three companies have introduced new products or services during the previous two years, in general these innovations do not account for more than 10% of turnover.
- Increasing market share and profits are the main drivers for innovation. A third of all respondents in the survey believe that innovation is necessary for the long-term survival of their company. The need to comply with regulations and other external constraints such as satisfying shareholders is shown to have only minor influence.
- Training and motivation of existing staff are believed to be significant factors in successful innovation. Taking on highly qualified staff and introducing more advanced information technology are perceived as comparatively less important. Notably, only southern European managers expect increased mobility of qualified staff between Member States to boost innovation – even though difficulty in attracting competent employees is widespread in the EU.
- Companies introduce advanced technology by buying new equipment. They rely less on working with suppliers and customers, and even less on internal and external research, to access new technologies. The vast majority of CEOs interviewed thought that Germany was the most important source of advanced technology. "In a truly integrated single market, small and medium-sized enterprises (SMEs) can acquire advanced technologies easily from anywhere in the EU," says Durvy. "An innovation system with a European dimension can boost competitiveness and stimulate growth."
- Knowledge-sharing with partners, and networking with other innovative companies, are generally viewed positively, but while support is very high in Italy and Spain, there appears to be more doubt in Denmark, Germany, Sweden and the United Kingdom. "The European Commission is already setting up a network of European universities and public research facilities for technology transfer," says Durvy. "We need such a

'The two most important unsatisfied needs for innovation in your company' (May 2001)

Innobarometer



network in order to promote good practice."

- Executives have mixed reactions towards potential opportunities offered by a European stock market or cross-border access to venture capital. Again, those in southern Europe have the highest expectations. Three out of every four respondents are satisfied with currently available sources of finance.
- National tax systems are generally not seen as helpful to the process of innovation. Except for Luxembourg, Ireland and the Netherlands, around 80% of managers say their national tax system fails in this respect.
- Managers consider being first to market a new product as the best way of protecting their know-how – and more effective than going through legal procedures. "Companies in Europe, especially SMEs, do not patent enough," Durvy comments. "In general, the process is slow and costly compared with the United States, for instance. A patent applicable to the whole EU is needed to encourage SMEs to use more patents. The Commission is pushing for such a patent, which would constitute a major advance towards greater innovation."(2)
- Customers are perceived to be important drivers of innovation by approximately 80% of business leaders, especially in Germany. Hopes are high in southern Europe that the opening up of national markets will offer better access to innovative customers. This appears to be of less relevance in countries that already have highly innovative customers.

Measuring improvement

The Innobarometer complements the Innovation Scoreboard, which is based on rather complex analyses of large, time-consuming national surveys. As in a laboratory, where the simple 'litmus test' is used hand in hand with advanced equipment for elaborate, detailed analysis, each type of survey serves a purpose.

"It makes sense to link complementary elements from the two surveys," says Durvy. "We hope to do that next year, in parallel with an analysis of innovation policies in the different Member States." The Commission plans to conduct the Innobarometer survey annually, using the same methodology and retaining a core questionnaire. New questions may also be added to investigate specific issues each year – for example, the relationship between innovation and sustainability. Each year's responses to the same core questionnaire will make possible a trend analysis, helping to identify weaknesses in innovation policies. This will provide a framework for peer reviews between senior officials, contributing towards a wider adoption of good practice.

"Eventually we also need to incorporate the views of the innovation system's stakeholders, who include consumers," Durvy adds. "Innobarometer has to be seen in this fuller context. For instance, if consumers are very conservative the market for new products will be small – no matter how innovative the suppliers. EU policy needs to promote an innovation culture on both the supply and demand sides." ≡

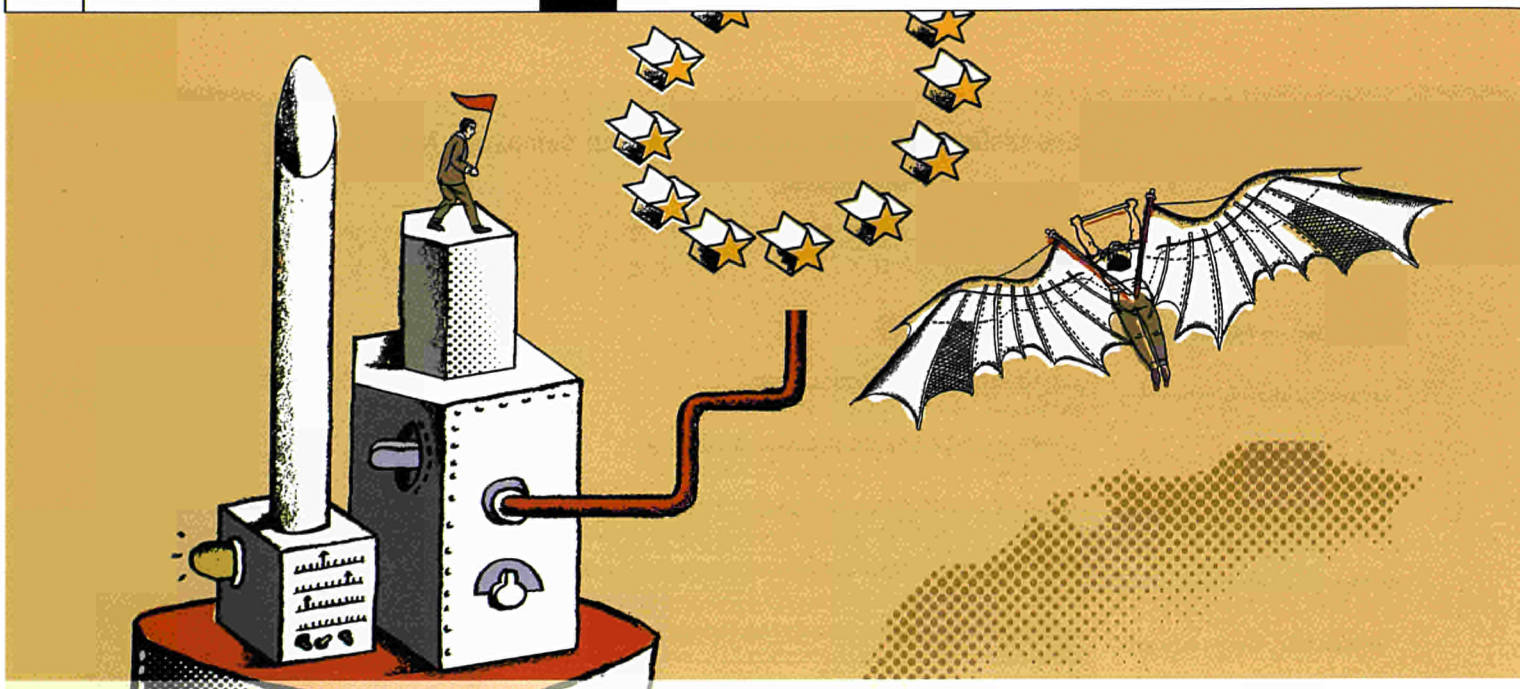
(1) See 'The learning curve', edition 6/01, and the special edition of October 2001 which contains the main text of the 2001 Innovation Scoreboard.

(2) See this edition's dossier article, starting on page 8.

Contact

J-N. Durvy, K. Schwall, European Commission
Enterprise DG
Innovation Directorate
Innovation Policy
Tl. +352 4301 33809
Fx. +352 4301 34129
klaus.schwall@cec.eu.int

A summary of the findings, as well as the full report, can be downloaded at http://www.cordis.lu/innovation-smes/src/innobarometer.htm



A balance of interests

Jointly staged by the European Commission and the European Patent Office, the biennial Patinnova event and the Epidos annual conference brought together entrepreneurs, industrialists and patent professionals. The vigorous exchanges of views provide fresh evidence of the central but controversial role of intellectual property in the 'new economy'.

From 39 countries, 750 delegates converged on Cardiff, the Welsh capital, in October last year. Workshops and seminars enabled them to learn about and discuss the latest developments in the world of patents, while an exhibition showcased patent-information products and services.

In addition to its sessions on patent information, the Epidos conference set aside a day for the launch of the EPO's new online transaction system, *epoline*(1). Patinnova, meanwhile, focused on patents in the digital era and patents as an aid to entrepreneurship. In the month when the US government threatened to override Bayer's patent on its anthrax drug, forcing the company to slash its price, Patinnova's return to basics was perhaps fitting.

1. Consensus for a Community Patent

After a quarter of a century, negotiations to create a single, EU-wide patent are nearing completion. Will Europe clear the final hurdle?

"The idea of a Community Patent goes back to the very beginnings of the European patent system," recalls Anthony Howard of the European Commission's Directorate-General for the Internal Market. From the ashes of the most recent failure an encouraging momentum has emerged which, after prolonged consultation, promises to push through an agreement. "The proposal for a Council Regulation on the Community Patent is currently being discussed among Member States," he says(2).

Community Patent requirements

The consultation process highlighted the features of a Community Patent which would be essential if it was to boost the competitiveness of European industry. First, it should give a patent the same effect throughout the European Union. It should also be linked properly with the European Patent Convention – Community Patents will need to be examined and granted by the existing European Patent Office, for example.

Self-evidently, it should be affordable. "Particularly for SMEs, this is one of the most important criteria," says Howard. But the implications are controversial, as the question of patent translations shows. Reducing the number of languages into which patents must be translated, in order to save costs (see Table and Figure 1), conflicts with the right of access to patent information in a familiar language. The Commission's proposal recommends fewer translations, but would limit the damages payable by infringers of patents not translated into a language they understand.

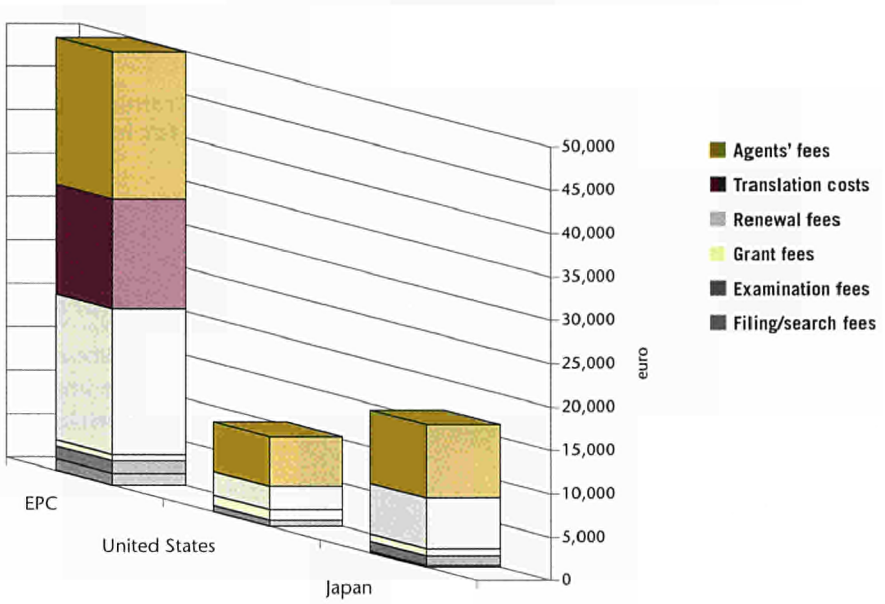
Other targets for cost reduction include procedural fees (see 'Soft competition'

(1) epoline *is a registered trademark.*

(2) The Commission proposal for a Council Regulation on the Community Patent is available online at http://europa.eu.int/eur-lex/en/com/dat/2000/en_500PC0412.html

Figure 1: Patent costs and fees currently payable in Europe, the United States and Japan

IPR-Helpdesk/EPO



and Figure 1). Andrew Beale, Director of the Swansea IPR Centre, which helps SMEs with their intellectual property (IP), reminded delegates of the very small window of opportunity offered by a patent. "The central problem is that an SME must secure a licensing agreement or other financial support within a 30-month period," he explained. "Otherwise it has no chance of affording the national fees in each country where it has applied for protection. Clients of ours have taken the PCT route(3) but ended up with only a UK patent because that was all they could afford."

Affordability may be hard to achieve, but legal certainty will be even more challenging. Most observers now believe that this requires a single Community Patent Court to decide matters of fact and of law. At present, a patentee must sue an infringer separately in each Member State where infringement may have taken place – "this is totally unnecessary and a huge waste of money," says entrepreneur Mandy Haberman (see 'Not child's play'). But no such court has ever been created by the EU before, and as yet there is no legal basis for one.

The road ahead

What next, therefore? "The ministers have defined a very ambitious timetable to adopt the Regulation by the end of 2001," Howard told Patinnova delegates. But a good deal remains to be done before the first application for a Community Patent can be received. Work to amend the European Patent Convention will not take place before June, when a diplomatic conference is planned for this purpose. Then there is the matter of the Nice Treaty on which the legal basis for the proposed Community Patent Court depends – in the wake of the vote against the Treaty in Ireland's recent referendum, it is uncertain how soon it will come into force.

(3) As an alternative to patenting an invention separately in each country where protection is sought, the Patent Cooperation Treaty (PCT) procedure allows many countries to be designated simultaneously. See 'European Patents – How they Work', edition 1/00.

Scenario	Translation costs
1. **Luxembourg Convention** – complete translation of patent documents into the ten working languages	€17,000
2. Translation of the patent documents into the three working languages of the EPO	€5,100
3. **Proposed solution** – translation of the patent documents into one of the EPO's three working languages and of the claims into the other two	€2,200

2. To protect or not to protect?

As the EU wrestles with the issue of software patentability, differences of opinion about the protection of computer-related intellectual assets are widening.

In contrast to the consensus behind the Community Patent, agreement on computer-related patenting was notably absent from Patinnova. "There was a move to amend the European Patent Convention with respect to software patenting in 1997," says Dai Rees, Director of the European Patent Office. "Everybody complains that it has taken so long. But European institutions depend on consensus, and the consensus that existed in 1997 fell apart in early 2000."

>>>

Patenting for SMEs

Not child's play

Mandy Haberman thought her patent for a self-sealing child's training cup guaranteed mass-market exploitation of her invention. Suing a competitor for infringement was a baptism of fire.

Inventor Mandy Haberman demonstrates the Anywayup cup.

Her idea was provoked by a trail of black-currant juice left on a cream-coloured carpet by a child with a conventional training cup. "I realised that what was needed was a cup which sealed itself when it came out of the child's mouth," says Haberman. Within a few years, she solved the problem.

Already the inventor of the patented Haberman Feeder(1) for children who have difficulties with sucking, she had experience of the patenting process and thought she understood the obstacles that separate small inventors from the market.

Hazardous

But the Haberman Feeder addresses a niche market – only a limited number of children suffer from the disabilities it overcomes. The Anywayup(2) cup, by contrast, could take a large share of the huge market for the cups with which most children learn to drink independently.

On the advice of V&A Marketing Limited, Haberman eventually broke into the market by showing prototypes of the Anywayup cup at trade fairs. "Within the first year, we had sold half a million cups. Now, we sell more than 10 million units each year," she says. But, as the Anywayup cup began to win market share from established nursery-product companies, she spotted a trainer cup which infringed her patent. With V&A Marketing, she served a writ on the offender, a company to which she had shown a prototype five years earlier.

"What most patent applicants do not realise is that the grant of a patent does not actually mean much," Haberman says. "It only gives you the right to try to enforce it in court, at your own cost." And nobody had warned her that if she ever needed to sue for infringement, the validity of her patent could be questioned in the court. "It was an eye-opener," she adds.

Insurance policy

Unlike many small businesses, she did have litigation insurance. But the policy, which had been sold to her as sufficient for up to three enforcement actions, actually covered only the first few meetings with lawyers. "Litigation is very, very costly," Haberman says, but she still believes that insurance is the key. A well-organised, possibly pan-European insurance system for SMEs would be the best way to dissuade unscrupulous large companies from helping themselves to intellectual property with impunity, she reckons. A single Community Patent would greatly add to such a system's viability.

For Haberman, education is also a key issue. "People need to know what they are getting into before they spend money on patents," she says. Schools, colleges and universities could teach IP awareness, but are still surprisingly neglectful of the subject. She argues that governments, too, should do more to ensure that the money they spend encouraging the creation of innovative SMEs does not end up in the pockets of IP pirates instead.

(1) 'Haberman Feeder' is a registered trademark.
(2) 'Anywayup' is a registered trademark.

Contact
M. Haberman, Haberman Associates
Tl. +44 1923 852 478
Fx. +44 1923 853 544
mandy.haberman@virgin.net
http://www.mandyhaberman.com/

When the Commission issued a consultation paper in October 2000, as part of its initiative to harmonise EU law in this area(4), it received almost 1,500 responses. Most were opposed to any patenting of software, and many challenged long-standing, fundamental principles. "Policy-makers can no longer take even basic questions for granted," says Anthony Howard.

Christian Nguyen van Yen, vice president of intellectual property at Thales (see 'Soft competition'), restated the pre-1997 consensus. "It is very important to remember that patents are made to be used as a competitive weapon," he said. "An economic battle is being fought day after day, and in the IT sector it is fought mostly against big US companies. To defend ourselves, we need software patents."

Other perspectives

But Dominique Foray, an OECD economist, cautions against a 'one-size-fits-all' vision of intellectual property in which patents are assumed to be a prerequisite for innovation, giving the example of research databases. Thanks to modern network technologies, information contained in these cumulative repositories of knowledge can be reproduced any number of times at little cost, he points out. "The majority of innovations come from unplanned excursions through these information spaces. But if they are hidden behind a thicket of property rights, such exploration becomes more and more difficult."

Intellectual property rights can retard as well as stimulate innovation, Foray believes. "Cumulative intellectual assets do not need to be treated in the same way as other goods. Intellectual property, and patents in particular, are just one means among others." Foray's argument would probably be supported by many of the small software companies surveyed by Puay Tang from Sussex University's Science Policy Research Unit and John Adams from Sheffield University (see Figure 2). "At least 83% of these firms had either never patented or seldom thought of patenting," says Tang. >>>

(4) See 'Patent Pending', edition 3/01. The consultation paper and the responses of those who agreed to their publication are available online at http://europa.eu.int/comm/internal_market/en/intprop/indprop/index.htm

Patinnova conclusions

In a closing address, Heinz Zourek, Enterprise DG's Deputy Director-General, emphasised the conference's value as a forum for the exchange of ideas and a source of inspiration for policy-making.

Summarising its conclusions, he stressed SMEs' crucial contribution to economic growth and employment, and acknowledged the financial damage which they suffer as a result of the misappropriation of their inventions. He reiterated the Commission's commitment not only to the creation of innovative SMEs, but also to their survival in a competitive market place. Public research organisations, too, increasingly treat their intellectual property as a commercial asset, and face the same problems as SMEs. But Zourek saw little room for the Commission to bring effective patent-litigation insurance into being. "It cannot force the insurance industry to offer a product which the market does not accept," he said.

He dismissed the suggestion that a group of European countries might devise its own rationalised European patent system, should the momentum behind the Community Patent falter. Legal competence for this matter had passed to the Community. A Community instrument is now the only way ahead for the Member States, he said, urging delegates to "keep pushing" for a reasonable and timely consensus on the Community Patent.

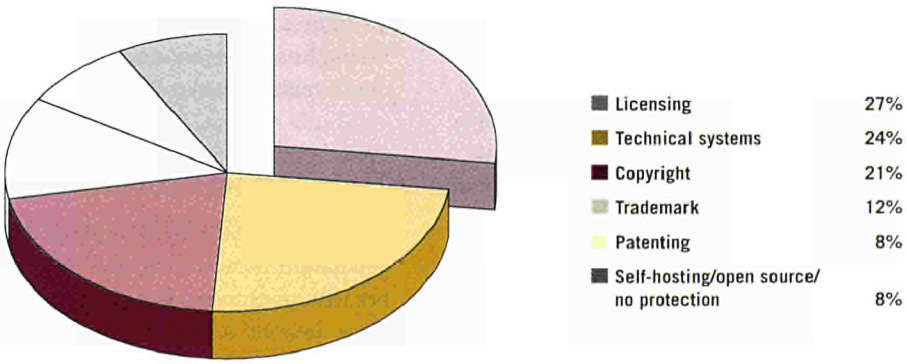
The value sometimes attached to intangible intellectual assets today is astonishing, said Zourek, but a balance must be struck between different interests in IP law. In relation to the patentability of software, the European Patent Convention needs to be put back in line with the case law, he said. But the established criteria for patentability should stand. "The question of what to protect and what not to protect cannot be decided by engineers. It requires widespread consensus among the different players – which is why the Commission and the EPO pay such close attention to the proceedings of the Patinnova conference."

Contact

The conclusions of Patinnova are available in full at http://www.european-patent-office.org/epidos/conf/pat_eac01/pdf/pres/hzourek.pdf

Figure 2: Methods used by SMEs to protect IP in software (ranked according to importance and effectiveness)

Puay Tang, John Adams and Daniel Paré (2001), Patent protection of computer programs: Final report to European Commission, Directorate-General for Enterprise



Irrelevant to SMEs?

These respondents offered various explanations, and not just lack of awareness or the high cost of patenting – the reasons most often cited by IP practitioners. "They feel that large companies use patents to threaten SMEs and prevent them from competing in their markets," Tang explains. "They fear that software patents will block their activities," adds Adams.

Many said that first-mover advantage is the crucial factor in the software industry. As one explained, "Fast-moving businesses work and grow at such a rate that pursuing their own legal rights is a distraction. You can make more money, faster, by just doing something else and getting on with it."

In a separate study, Tang found that informal approaches to intellectual assets are common. "SME software developers say trust is important – and that if you spend your time worrying about infringement or pirating, you should get out of the business," she says. But for patent lawyer Walther Holzer, trust is a term that belongs to the Middle Ages, before patent and copyright laws existed. And he warns that SMEs' opinions should be interpreted with caution. "Most SMEs lack a full understanding of the issues," he says.

The conflicting responses to the Commission's consultation exercise, reflected in the views expressed at Patinnova, make it more difficult to produce a proposal for a Directive to harmonise EU law on software patentability. Howard nevertheless told delegates that discussions are progressing well. "Personally, I believe we could see the proposal before Christmas," he added.

3. Inferiority complex

The United States' economy no longer looks as irrepressible as it once did. But its culture of intellectual property management is still envied in Europe.

Manfred Schmiemann of DG Enterprise compared European and US efforts to encourage technology transfer from universities and public research organisations to industry. In the US, he asserted, legislation passed in the 1980s – starting with the Bayh-Dole act – soon created a robust legal framework for university technology transfer. "As a result, the US has achieved impressive figures, which are rather embarrassing to us on this side of the Atlantic," he said.

The Commission will soon launch a direct 'counter-offensive' inspired by the American Association of University Technology Managers. The Proton pilot action will establish a new European network to link people working at the interface between publicly funded research and industry.

Transatlantic envy

Others, too, pointed to a more favourable climate on the other side of the Atlantic, notably in relation to the patentability of software and business methods. When IP consultant Ted Blake described the US as a 'role model for Europe' in the world of patents, panel-discussion participants responded by enumerating sign after sign of US superiority.

"America may simply be a generation ahead of us," suggested Adams, while Haberman spoke of a more level playing field. "In the US, SMEs can take on big companies because everything is working on their side," she said. "In Europe, we do not have that support."

Wolfgang Starein, Director of the SMEs Division at the World Intellectual Property Organisation, noted another difference. "The IPR culture in the US is quite different, because awareness is so much higher. In other parts of the world awareness-raising is still a policy priority." Blake told how the US pavilion at the EPCOT centre in Disneyworld refers to the patenting of two inventions. "No other country in the world would see a couple of inventions as important features of its history," he said. "American awareness of intellectual property, throughout the economy, is without doubt higher than in Europe."

The road less travelled

Does Europe really lag behind the US by a generation? Rees was the one panel member who questioned this, suggesting that there may be a variety of paths to the optimisation of patents and innovation. "We have a choice. In global markets, harmonisation is very important, so obviously we need to harmonise – but we do not have to do so by following the US path. In America, the accepted view is that business-method patents promote innovation. In Europe, the general perception is that they restrict it. We may simply be right in feeling that business-method patents are not constructive or helpful for innovation in the European economy as a whole." ≡

Contacts

A. Howard, European Commission
Internal Market DG
Services, electronic commerce, intellectual and industrial property and the media Directorate
Industrial property
Tl. + 352 4301 95481
Fx. +352 4301 93104
anthony.howard@cec.eu.int

M. Schmiemann, European Commission
Enterprise DG
Innovation Directorate
Innovation Policy
Tl. + 352 4301 33353
Fx. +352 4301 34129
manfred.schmiemann@cec.eu.int

IP Management

Soft competition

Software patenting and the proposed Community Patent are high on the agenda for Europe's high-tech multinationals.

Thales employs 65,000 people in 30 countries. Active in the aerospace, military and information technology sectors, it invests heavily in research and development – much of it in 'dual use technologies' with applications in all three sectors.

Hard to soft

"Our business is systems engineering," says Christian Nguyen van Yen, vice-president of intellectual property. "Software has become key to the performance of our systems, and now accounts for 50% of our R&D workforce. Our patenting momentum is increasingly shifting from hardware to software."

The uncertainty over software patentability in Europe is an obstacle that he would dearly like to see removed. "Our algorithm patents cover functions which are protected *per se*, however they are implemented. But we have not patented software as such, despite the potential for a wide variety of inventions in this field."

He cites the example of middleware – software that sits between a computer's operating system and an application program. Middleware is very useful in the struggle to maximise reusability and thus contain the soaring costs of software. For Thales, it plays a crucial role in its mission-critical real-time systems, whether for air-traffic control or banking security. "This is why we stress the need for Europe to move forward in software patenting," he says.

The situation also has some very practical implications for IP practice within Thales, and not just for their IP experts. "Our engineers have been taught that software is not patentable," he says. "So they have been unaware of the growing opportunities for software-related patents. We need to develop awareness in our inventors so that they know not only that software is patentable but also how to patent it." In particular, he encourages Thales' software engineers to monitor the patent literature as a source of ideas for new inventions, as hardware engineers have for many years.

The Commission has recently published a succinct guide for SME developers, 'Your Software and how to protect it', outlining the benefits, costs and risks of formal and informal software protection. It can be downloaded from http://www.cordis.lu/innovation-smes/src/studies.htm

Burdensome

Nguyen van Yen has no doubts that the Community Patent should be made a reality as soon as possible. The tangle of national and European patent systems imposes too high a cost on Europe's inventors, he argues. "One effect is that European companies are under-protecting their intellectual assets compared with the US."

His own calculations highlight the difference. Allowing for the different sizes of the markets for Thales' products, the protection bought by an average Thales patent maintained for ten years costs €1,500 for every 1% of the market in Europe – but only €380 in the US. "The bulk of the costs go on patent-office and professional fees," he says. Now add the disproportionate cost of asserting IP rights in Europe's many national courts, and the gap widens to a crevasse.

He takes heart from the recent London Agreement, however. As long as a patent granted by the EPO is in, or is translated into, English, German or French, the ten European signatories will accept its validity without requiring further translations. "That is a big step in the right direction," he says.

Contact
C. Nguyen van Yen, Thales Intellectual Property
Tl. +33 1 4148 4572
christian.nguyen@mobile.thomson-csf.com
http://www.licensing.thomson-csf.com/

PAXIS

Innovation without frontiers

A Paxis specific project is testing a new strategy for promoting innovative start-ups in a cross-border region that links the EU with the Newly Associated Countries (NACs).

Ister (Innovative start-up support in the trilateral region Slovakia-Austria-Hungary) is one of 24 specific projects supported by the Innovation and SMEs programme as part of the Paxis pilot action[1]. Their objective is to test and validate practical schemes for supporting the creation of innovative start-ups. Launched in April 2000 by the Business and Innovation Centres (BICs) Bratislava, Burgenland and Innostart Budapest, Ister aimed to explore the idea of a 'virtual incubator' to support innovative companies in the border region between Austria, Hungary and Slovakia. "The concept is an interesting one," comments Charlotte Avarello of the Innovation Directorate, "particularly in light of the second Paxis call of May 2001 which gives particular attention to improving links with the NACs and promoting the transfer of experience to these countries."

Virtual incubator

Ister's initial task was to develop a package of services which could be accessed, primarily online, by a selected group of innovative companies. The plan is to support the development of these firms and assist them in establishing cross-border activities. Services delivered through the dedicated website can be followed up in person by experts from the three BICs. Project co-ordinator Roman Linczenyi says that interest from potential client companies has been high. "We have established a database of 100 companies and are presently working with a group of 22. We originally intended to choose just five from each region, but the scale of the demand and the innovative potential of the business proposals persuaded us to include a further seven. The project has now completed its 18-month setting-up phase, and all parties are keen to go on and expand the initiative."

Tailored services

The proposed package includes the classical set of services – business and financial planning, logistical and marketing support, and networking. They have, however, been tailored to meet the special needs of the regions and the participants involved.

"Securing external financing is a particular problem faced by new technology start-ups in the NACs," Linczenyi notes. "Risk capital is not very developed, and investors are reluctant to put money into new ventures. We have developed special tools to help them evaluate the investment opportunities." Businesses in the NACs find it hard to assess their innovation and marketing potential accurately, and Ister has developed a benchmarking package designed to help them obtain a better idea of their likelihood of success in the markets of neighbouring countries.

Linczenyi recognises that, more generally, new ventures in the NACs lack support, so the focus cannot be solely on start-ups. "We are also working with established innovative companies which are developing new areas of activity or which want to expand their activities into neighbouring countries." And the project must take account of rapidly changing circumstances. "For example, the economic situation in Slovakia has improved considerably since the start of the project, and we have had to adapt to meet new needs," he explains.

New markets

Although centred on the development of shared, web-based resources, the project also involves regular direct contact and exchanges between the various partners. The participating companies benefit from privileged access to experienced agents in neighbouring markets, and from valuable exchanges within the network. One novel idea which has been taken up as an example of good practice is referred to by Ister as the 'B62 concept'. Named after the main highway from Burgenland to Hungary, the initiative involved ten

Innovation

The Innovation/SMEs Programme in brief

Part of the EU's Fifth Research Framework Programme, the 'Innovation and participation of SMEs' programme promotes innovation and encourages the participation of small and medium-sized enterprises (SMEs) in the framework programme. The Programme Director is Mr G.C. Grata (Innovation Directorate, Enterprise DG).

Contact

Innovation policy
Fx. +352 4301 34129

Projects and methodologies
Fx. +352 4301 32100

Networks and services
Fx. +352 4301 32779

Communication and awareness
Fx. +352 4301 35389

Resources
Fx. +352 4301 33389

Research and SMEs
Fx. +32 2 295 4361

http://www.cordis.lu/innovation-smes/home.html

The 'virtual incubator' set up by Ister offers support to innovative companies in the border region between Austria, Hungary and Slovakia.

Austrian companies which decided to pool resources to create a new joint venture in Hungary with the specific aim of promoting exports.

Linczenyi believes that Ister has placed a new emphasis on innovation in the region. "Participation in the Paxis initiative has put us in touch with new tools and approaches which have been very helpful to us. We have already seen positive results and are convinced that the idea has even greater potential." He is also confident that the experience will be of interest to other European regions bordering the NACs. "The innovation context in the NACs is often quite different from that in the EU. This approach allows a great deal of flexibility in the type of services delivered, whilst encouraging an active exchange of information, as well as the development of concrete business links." ≡

(1) For background information on PAXIS (the Pilot Action of Excellence for Innovative Start-ups) see 'The innovation connection', edition 6/00, and 'Achievement and optimism', edition 1/01.

Contacts

C. Avarello, European Commission
Enterprise DG
Innovation Directorate
Innovation policy
Fx. +352 4301 34129
charlotte.avarello@cec.eu.int
http://www.cordis.lu/paxis/

R. Linczenyi, BIC Bratislava
Tl. +421 2 5441 7515
Fx. +421 2 5441 7522
lindy@bicba.sk
http://www.bicba.sk/

Home Automation

SMEs connected for product development

Elderly and disabled people often guard their independence fiercely, but struggle to cope at home alone. A solution is now available, thanks to research by small and medium-sized enterprises (SMEs) in Spain and Portugal, which have developed sense and control technology to automate many household devices.

Information technology is quickly infiltrating domestic life. An internet-enabled refrigerator may not be a necessity of life, but sense and control systems can help to make homes safer and more efficient. Elderly and disabled people in particular can benefit greatly from automated controls which simplify tasks like closing blinds and calling for help.

Wired

Nine years ago, Bioingenieria Aragonesa, based in Zaragoza, Spain, recognised the substantial market for these domestic automatic ('domotic') systems. "We were already developing software for intelligent systems, but decided to start designing electronics," explains Antonio Remartinez. "Because nearly all domestic devices are electric, we created a system to link different modules via the building's existing cabling. Instead of using a special network, data passes between sensors, control devices and the central processor through the same wiring used by lighting and appliances."

Biodom can also be connected to conventional domestic security systems. When a

>>>

An ageing population means rising demand for domotic systems like Biodom.

house is empty, infrared sensors can detect intruders and Biodom will sound the alarm. But when residents are at home the same system will respond to their movements, switching lights on or off as they pass from room to room. Other sensors can detect smoke, and gas or water leaks. Programming Biodom is simple – users can control each device, including their central heating, from either the television or the telephone.

Usability

In the 30-month CASA project(1) co-funded by the TIDE (Technology for the socio-economic integration of the disabled and elderly) programme, Bioingenieria's ideas moved from concept to prototype. While the Spanish firm developed the user interface, partners across Europe helped to define, test and evaluate the system. The HUSAT Institute at the University of Loughborough in the United Kingdom, along with companies specialising in analysing user needs in Greece and Spain and a social service co-operative in Italy, identified the domotic requirements of elderly and disabled users. They also evaluated trials carried out in homes wired up with a prototype of the Biodom system by the Portuguese and Spanish telecommunications companies Telecom Portugal and Elasa. Pluricom, a Portuguese SME, and the University of Aveiro investigated the requirements the service centre needed to respond to alarm calls.

"By the end of CASA we had a good working prototype that had been tested by real users," says Remartinez. "The research provided detailed understanding of user needs and a platform for product development. We were sufficiently encouraged to go forward and bring a system to market."

Bioingenieria was not the only beneficiary, of course. After asking older people what they would like to see in an automated system, the HUSAT Institute published a design methodology called USERfit. Drawing from the CASA experience, USERfit argues that it is essential to understand the needs of user populations in some detail before specifying particular design solutions.

Product launch

After CASA finished, Bioingenieria spent two more years refining and optimising Biodom before its launch in 1999. The system is being installed at around 50 sites in Spain, and Remartinez estimates that it has already achieved sales of around €500,000. "At the moment, because of the cost, the system is only being used in new homes. CASA set out to ensure that the system would be appropriate for all users, not just for the elderly, and sales so far demonstrate the validity of this approach. Younger people appreciate the system's security and energy-saving features, and enjoy its novelty. However, we are currently examining the possibility of incorporating our system into other services for the elderly, such as telecare."

As Europe's population ages, Bioingenieria anticipates rising demand for domotic systems. In order to reach the widest possible market, the company has ensured its technologies comply with accepted protocols, such as the EU's European Home System (EHS) standard for home automation products and services.

Remartinez says that Biodom is an excellent example of the benefits of co-operative research and development. "This type of collaboration has been extremely valuable. The know-how and support we received from our partners made a major contribution to the design of Biodom," he says. "And when you work together, what you each learn from one another also strengthens your capacity to develop further new products in the future." ≡

(1) TIDE-1068 – Concept of automation and services for people with special needs.

Contact

A. Remartinez, Bioingenieria Aragonesa
Tl. +34 976 798 200
Fx. +34 976 798 201
info@bioingenieria.es
http://www.bioingenieria.es/

New deadline for FP5 CRAFT proposals

The European Commission has announced a final deadline of 28 February 2002 for receipt of proposals for CRAFT projects under the Fifth Research Framework Programme. This replaces the last two deadlines originally planned – of 16 January and 17 April.

Contact

SME Helpline
Tl. +32 2 295 7175
Fx. +32 2 295 7110
research-sme@cec.eu.int
http://www.cordis.lu/sme/

Innovation Projects

Net works

The 'THE' network is one of three innovation clusters designed to bring together projects with similar innovation profiles as test beds for new concepts of systemic innovation networking.

As part of its 'New approaches to technology transfer' action line, the Innovation and SMEs programme encourages the clustering of Innovation projects, to stimulate mutual learning in related areas of innovation promotion. So far, three clusters(1) are being supported by Accompanying Measures to facilitate exchanges of information on innovation issues, the identification of common problems and possible solutions, and the creation of trans-European platforms for the exchange of knowledge and good practices.

The clusters group together projects tackling issues at the same stage of the innovation process, as defined in a model developed by the Innovation programme. This illustrates four dimensions of innovation – anticipation, facilitation, organisation and adaptation(2). "The aim is to help the projects position themselves in a wider context, and ultimately to form a community of like-minded organisations working together in broadly complementary roles within the overall innovation process," says Jean-Claude Venchiarutti of the European Commission's Directorate-General for Enterprise.

Facilitate and organise

The THE network brings together nine projects that deal primarily with aspects of the innovation process related to facilitation and organisation(3), to create integrated virtual companies. All aim to influence the way in which small and medium-sized enterprises (SMEs) engage in this process, either by facilitating innovation (for example, through access to wider networks of information and advice, or the development of benchmarking tools) or by helping to develop new forms of organisation likely to stimulate the innovation process.

A number of the projects are exploring new approaches for taking full advantage of the possibilities offered by information and communication technologies. These range from the establishment of an EU-wide online technology brokerage service (Inno-Tec-Broker) to the development of a European e-business service network (E-BSAN).

Others are developing tools intended to increase SMEs' awareness of the importance of innovation. These include tailored innovation training materials (Entertain) and a benchmarking tool – the product innovation profile, PIP or 'Pip Score'.

New life forms

Exploring new forms of collaboration may reveal important mechanisms for the stimulation and support of innovation. The Tritec project aims to develop and test mechanisms for stimulating trilateral alliances between technology-based SMEs, large companies and venture capital firms.

"Essentially, our approach is based on the concept of corporate venturing, which has been around for some time," explains John Duckett, the project co-ordinator. "A large corporate entity may use this mechanism to 'partner' a smaller firm, in order to share the risks and rewards of exploring mutually beneficial opportunities. Traditionally, it has been limited to a few large corporations that have set up venture arms to provide extra capital to promising small companies. We want to explore the possibility of extending and

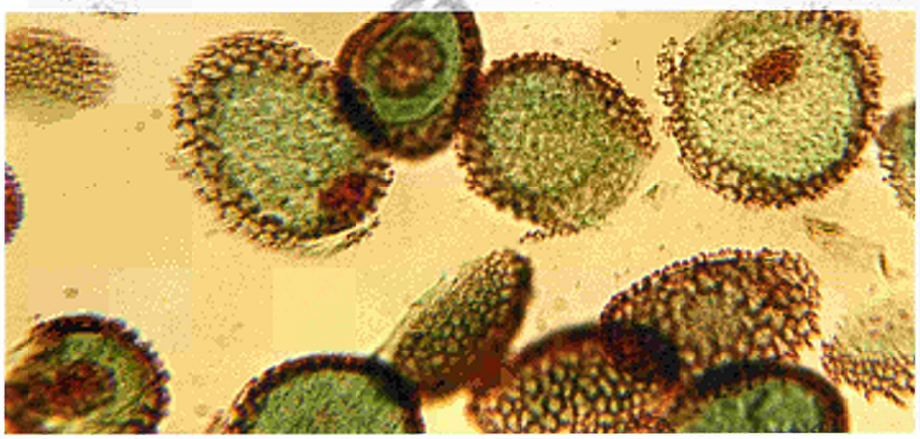
>>>

(1) The other two are TOP, which addresses barriers to innovative processes or products (adaptation), and HIT, which explores future innovation opportunities (anticipation).

(2) See also 'Hard Issues – No Soft Option', edition 3/01.

(3) Entertain, E-Bsan, Tritec, Inneurotex, Tiger, Pip-Score, Inno-Tec-Broker, Forma-Con-Gest-Pm, Clues.

Trawling for innovation – drawing projects together into clusters will stimulate the formation of lasting networks of innovation actors.



The innovation process demands new forms of organisation, such as 'virtual companies'.

adapting this concept in a wider European context."

The project introduces two significant innovations to conventional corporate venturing. First, it extends it from very large corporations to smaller companies. Second, by bringing in an independent source of venture capital, it shifts the emphasis of the relationship away from a purely financial arrangement. "A real barrier to the success of such alliances has been shortage of cash to fuel the growth and development of the smaller partner," Duckett explains. "In Tritec, instead of asking the large company for cash, we ask for a more integrated involvement in the partnership. The benefits flow both ways. The large company brings its strategic vision, experience and market access opportunities, and the SME its specialised know-how, energy and flexibility."

Learning by doing

The Tritec consortium brings together a group of technology transfer organisations from the United Kingdom, France, Portugal, Italy and Germany, all with experience in providing business support services to technology-based SMEs. Each partner will work closely with a small core of large companies, assisting them to identify areas in which there is a technology, resource or marketing gap which may be cost-effectively plugged by entering an alliance with a suitable smaller company.

"So far, reactions have been very positive, and we already have a number of important players on board," says Duckett. He points out, however, that they are still very much in a 'learning by doing' phase. "We are learning all the time, and being able to share our experiences with other consortium partners is a definite advantage. We all face similar problems, but there are sometimes interesting cultural differences and the exchange of experiences can lead us to new solutions." Pooling their databases of SMEs will also give the large companies access to the best partners available, not only locally or nationally, but throughout the partner countries.

Community building

As part of the THE cluster of innovation projects, Tritec will be able to share its experiences with an even wider community of innovation actors. Duckett is positive about the potential benefits of the cluster. "In my experience, when like-minded people with broadly similar objectives come together, something good is sure to come of it," he says.

The first meeting of the THE cluster members took place in September 2001. It provided an opportunity for the project teams to get to know one another and identify common problems and needs. The next step will be to create a platform for the exchange of experiences and good practice. This is likely to include the development of a common internet forum and the setting-up of working groups to address shared issues and strategies.

The Innovation and SMEs programme is keen that the cluster participants themselves should take the initiative, based on their recognition of the added-value which can be derived from this type of collaboration. Venchiarutti stresses that "This is not just about networking. It goes beyond that. Our goal is to build a community of innovation actors working together for their mutual benefit and the benefit of the European Union as a whole. It is also about the added value of sharing knowledge. In order to promote an innovation culture in Europe effectively, we need to make the often tacit knowledge of innovation actors more widely accessible. This requires the development of systemic models applicable to a wider community of potential innovators." ≡

Contacts

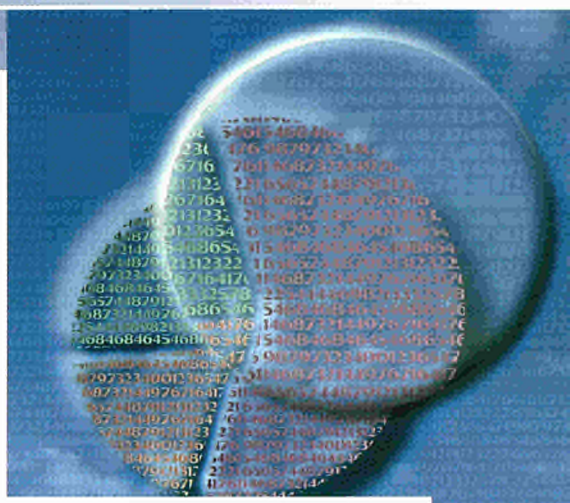
J-C. Venchiarutti, G. Haesen, F. Fernandez,
European Commission
Enterprise DG
Innovation Directorate
Projects and methodologies
Fx. +352 4301 32100
jean-claude.venchiarutti@cec.eu.int
http://www.cordis.lu/innovation-smes/src/projects.htm

J. Duckett, Thames Valley Technology Limited
Tl. +44 1865 784 888
john.duckett@tvt.co.uk

Competitive Support Activities

Uncertainty principles

As an example of technology transfer between sectors it seems unlikely. But a software package originally designed to assess the safety of buried nuclear waste is finding a market in the financial services industry, and is winning contracts for the Joint Research Centre.



Helping industry to assess risk is the JRC's business.

If nuclear waste is buried in an underground repository, what are the chances of it escaping into the surrounding rock? That was the question tackled in the 1980s by Andrea Saltelli and his colleagues at the European Commission's Joint Research Centre (JRC) in Ispra, who created computer models to solve this complex mathematical problem.

To estimate the risk of material escaping they used the so-called 'Monte Carlo' method of simulating a range of possible starting conditions. "A model produces a given output for a given input," Saltelli explains. "Monte Carlo does this not once but many times, using many plausible input values. It is a way to explore the uncertainties of the model's predictions." The model was able to determine which conditions had most effect on the uncertainty of the outcome – in other words, which factors involved the greatest risk.

The JRC team placed their software in a data bank run by the OECD, so that others working in nuclear safety could use it. But they soon received enquiries from people in other fields where risk assessment was important. "We had more and more external customers for the software, so we decided to develop a commercial version with a user-friendly interface," Saltelli recalls. In a project funded as a Competitive Support Activity(1), the JRC teamed up with software company POLIS to rewrite the simulation software as a commercial product – called SimLab.

Oil prospecting

Saltelli's team has an unusual marketing strategy for SimLab – they give it away free. "We operate contracts on a third-party basis and also within international research projects," Saltelli explains. "SimLab forms the basis for some of these contracts, so indirectly it does generate income."

So far about 100 customers have requested the system. As a result, the JRC has landed a contract worth €290,000 with oil giants AGIP and Shell to develop software based on SimLab to help them assess the possible yield of new oil fields. "Before they drill a bore hole they want to estimate their chances of finding oil," says Saltelli. "A huge amount of money is involved, so they want to be very careful about the kind of risk they are taking. They need to know what the uncertainties are and whether they can do anything about them, before they begin to drill."

But SimLab has even wider applications. Most users work in the assessment of either environmental or financial risks. Saltelli has already signed a contract with the European Investment Bank, which will use SimLab for estimating economic risks, and plans to market a similar service to other banks and financial institutions.

"When we started to develop SimLab as a commercial product we thought of insurance companies and banks, because it is especially well suited to characterising risk in an informative way," says Saltelli. "Our business is selling specialised competence of which SimLab is only one possible application. If from 20 free copies we win a study contract from one customer, we are well satisfied." ≡

(1) CSAs are financed by the Innovation and SMEs programme to transfer the Commission's own intellectual property – generally created by the JRC – to industry. See 'I Can See Clearly Now', edition 5/99.

Contacts

A. Saltelli, European Commission
JRC
Institute for the Protection and Security of the Citizen
Tl. +39 0332 78 9686
Fx. +39 0332 78 5733
andrea.saltelli@jrc.it
http://www.jrc.cec.eu.int/uasa/

P. Tomaszewski, European Commission
Enterprise DG
Innovation Directorate
Fx. +352 4301 35389
peter.tomaszewski@cec.eu.int

Economic and Technological Intelligence

Horses for courses

The SeSME team at a meeting hosted by the Czech project partner, the Prague Technology Centre.

Working together, a group of research and trade organisations have identified and responded to the different motivations and needs of small companies in several key sectors.

It is widely believed that small and medium-sized enterprises (SMEs) represent the key to Europe's future economic growth. But they often find it difficult to access the resources that are essential for their success. The European Commission offers a number of generic support measures for SMEs, but in practice their needs are extremely diverse. The SeSME project[1] is seeking to understand their differences and similarities, so that the support offered to SMEs can be better targeted and more effective.

Know your customer

SeSME is one of 52 accompanying measure projects funded under the Innovation and SMEs programme's Economic and Technological Intelligence (ETI) action[2]. This aims to identify the needs of SMEs in specific key sectors as the basis for customised services to help them benefit from EU research projects.

"SMEs in different sectors have different needs," says Tim Leeuwerink, Project Officer for Senter/EG Liaison, and SeSME project co-ordinator. "By uncovering and addressing common needs, we can better assist companies in particular sectors to find new ways to stay competitive."

The project targeted six sectors – concrete, fine chemistry, eco-efficient design, renewable energy, rational use of energy, and industrial water purification and management. "We selected these because they include particularly large numbers of SMEs," explains Leeuwerink. As a starting point, detailed overviews of each sector were prepared using information gathered from trade associations. Lists of target SMEs in the Netherlands, Denmark, Italy, Austria, Ireland, Sweden, Finland, the Czech Republic and Lithuania were collected and refined by associations and National Contact Point (NCP) project partners in the nine countries. Next, sector-specific surveys invited over 21,000 companies to select their areas of interest from a list of topics related to their sector.

Teamwork

Of those surveyed, 427 out of the target of 731 SMEs have so far expressed an interest in receiving assistance. These were contacted and counselled personally by the project partners. "The best ideas always come up in discussion, and we found this to be the most effective way to help small companies," says Leeuwerink. In addition, the project ran over 70 workshops and seminars. "We act as information ambassadors, communicating the opportunities that the Framework Programme offers SMEs in specific sectors."

SeSME began in May 2000 and will end in September 2002. To date, it has helped 140 companies find partners, and 108 project proposals have been submitted – mainly to the Growth and Energy and Environment programmes. The partners attribute the project's success to the active networking of NCPs, which helped companies locate partners in other countries, and to the unprecedented assistance provided by trade bodies in defining specific business needs. "Trade organisations have valuable in-depth knowledge of SMEs in their sectors," says Leeuwerink. "Their collaboration with research institutions has produced excellent results." ≡

(1) Sectoral specific SME economic intelligence stimulation.

(2) See also 'A PACT for competitiveness', edition 4/01, and 'Marriage for life', edition 3/01.

Contact

T. Leeuwerink, Senter/EG Liaison
Tl. +31 70 361 0250
Fx. +31 70 356 2811
t.leeuwerink@egl.nl
http://www.egl.nl/

IRE network news

New Projects

Innovation in the mainstream

Regional Innovation Strategy projects pioneered an approach to the development of regional innovation support systems which is becoming an integral part of mainstream regional policy. A series of new projects build on this experience, and are extending its methods to countries preparing to join the European Union.

In the second half of the 1990s, Regional Innovation Strategy projects(1) piloted a bottom-up methodology for strengthening regional knowledge transfer capacity. The process was based on open dialogue – informed by careful analysis of the economic situation – between regional and national authorities, research centres, universities, chambers of commerce and other actors.

"Now, this type of action is being absorbed into wider EU regional policy instruments," says Michael Busch of the Innovation Networks and Services Unit at the European Commission's Directorate-General for Enterprise. "The European Regional Development Fund's new Innovative Actions and Interreg programmes both include elements addressing technological innovation. The response to the first calls demonstrates strong demand for this from the regions, while several have already used mainstream Structural Fund programmes to put innovation on the agenda for the first time."

Common concerns

Fourteen new Thematic Networks, which were expected to be launched at the end of 2001, will build on the earlier experience. "The output of a Regional Innovation Strategy project is an action plan, typically identifying around ten priority areas," Busch explains. "These networks group regions with common priorities for the exchange of experience and ideas."

"In the pilot phase, thematic sub-groups focusing on specific sets of problems turned out to be one of the most effective ways to stimulate practical progress," recalls Busch's colleague, Jacqueline Lostao. The new networks will apply the concept of focused exchange on a larger scale, encouraging the use of inter-regional collaboration as a day-to-day tool for the development of effective innovation support measures. The Verite network, for example, brings together regions from seven EU Member States and five Newly Associated Countries (NACs), which aim to enhance the capacity of regional actors to develop and apply innovations using Innovation Management Techniques. Acenet's nine regions will exchange good practice on the development of company clusters. They hope to stimulate the development of new clusters, and to facilitate commercial links between them.

East is east

Each Thematic Network includes at least one partner region from central and eastern Europe. In parallel, the RIS/RITTS methodology will be extended to these regions in a new series of so-called RIS-NAC projects. "In many of these countries, regions have only recently been established as political and administrative units," Busch says. "The projects will help them to fast-track the development of their innovation systems."

The call for proposals drew a high-quality response from NAC regions, following a major promotional campaign. "In each of the accession countries we staged a conference for all the main innovation actors," says Lostao. "These brought potential partners together, often for the first time, with counterparts from western regions on hand to explain the process in concrete terms."

The projects will employ the proven RIS/RITTS methodology, and will draw directly on the practical experience of the previous generation of projects. "We have introduced a 'mentoring' approach, so that each project involves at least one western region that has already been through the process, alongside one or more NAC regions," Lostao explains. Twinning is sometimes based on geographical and cultural proximity, or on historical links, as in the case of projects

>>>

(1) RIS (Regional Innovation Strategies) and RITTS (Regional Innovation and Technology Transfer Strategies) projects.

The IRE network in brief

As part of the Innovation and SMEs programme, the network of Innovating Regions in Europe (IRE) aims to facilitate the exchange of experience between regions developing regional innovation policies, strategies and schemes, and to improve their access to good practice.

All such regions are welcome to participate, and over 100 European regions are already members. The network is currently being enlarged to include both new thematic networks and regions in central and eastern Europe, which will develop their own regional innovation strategies.

Further information is available at:

http://www.innovating-regions.org/

The new Thematic Network and Regional Innovation Strategy projects will integrate the regions of central and eastern Europe into the network of Innovating Regions in Europe.

linking Greek and Bulgarian regions, and Scandinavian and Baltic ones. Others establish partnerships between very different regions – in the United Kingdom and the Czech Republic, for example. One project involves a transborder region spanning the Czech Republic and Poland, twinned with Saxony as its mentor.

Join the club

All 12 NACs will be welcomed from the outset into the network of Innovating Regions in Europe, which links all regions that have engaged in the innovation strategy process – whether with the support of Enterprise DG, Regional Policy DG, or on a self-funded basis. "This includes Lithuania, which is as keen as the others to join the club, and hopes to fund its project through the Phare programme," says Busch.

He emphasises that EU regions are equally enthusiastic about the extension of the IRE network. "We had no difficulty recruiting mentor regions. For them, the RISNAC projects offer a great opportunity to lay the foundations for joint ventures and scientific and technical co-operation with partners in Central and Eastern Europe." ≡

Contact

M. Busch, J. Lostao, European Commission
Enterprise DG
Innovation Directorate
Networks and services
Fx. +352 4301 32779
michael.busch@cec.eu.int
jacqueline.lostao@cec.eu.int
http://www.innovating-regions.org/

Regions in ERA

A research area for the regions

A recent strategy paper from the European Commission outlines the potential contribution of regional research and innovation players to the European Research Area. It also summarises the initiatives which will help them to benefit from it through participation in the next Framework Programme.

"The full engagement of the regions is essential to the construction of the European Research Area," says Dimitri Corpakis of the Commission's Directorate-General for Research. "In partnership with national authorities and with regions elsewhere in Europe, they have a vital role to play in supporting activity on the ground by local actors."

He emphasises that the paper[1] is not a proposal for a new programme, and has no specific budget attached to it. "Instead, it draws together current and planned initiatives, some of which may not have been sufficiently visible to regional authorities, to give an overview of the opportunities available to them," he says. "The aim is to provide a framework for action by the regions to develop their research capacities as integrated components of the ERA."

Policy and practice

Some regions are already making excellent use of existing support mechanisms, of course. Among other examples, the paper highlights the achievement of the Munich region in supporting the creation of 47 start-up biotechnology companies in just two years, under Germany's BioRegio programme.

But such success is concentrated in regions that already have strong research and innovation infrastructures. "It is important that the less-favoured regions targeted for Objective 1 support from the Community Structural Funds also develop effective regional research policies – in the same way that many used the RIS/RITTS projects to formulate regional innovation strategies," Corpakis says. In particular, the paper stresses the value of exchanges of policy experience between advanced and Objective 1 regions, and outlines ways in which this might be supported within the Sixth Research Framework Programme (FP6, 2002-2006).

FP6 will also provide special help for less-favoured regions to strengthen their human research resources through Marie Curie knowledge transfer fellowships and reintegration grants. The schemes will, respectively, enable them to host experienced researchers from other regions, and support the return of local researchers after fellowships abroad. In addition, the FP6 proposals include a new 'financial bonus' for Objective 1 regions. This would meet, from the Structural Funds, some of the costs to organisations from these regions of their participation in projects selected for funding on the basis of standard scientific criteria.

"The precise way that some of these schemes will operate is still under discussion," Corpakis admits. "But over the next few months the Research and Regional Policy DGs will be working closely together to build the mechanisms into the final FP6 plans."

Policy benchmarking

The paper also indicates a number of areas for future Commission activity to co-ordinate regional participation in the ERA. These include the development of science and technology indicators for the regions, and the extension of research and innovation policy benchmarking to the regional level. "We believe this exercise will provide a platform for the transfer of good practice, and for better understanding of why certain policies work and others do not," Corpakis explains. ≡

(1) 'The Regional Dimension of the European Research Area', COM(2001) 549 final.

Contact

D. Corpakis, European Commission
Research DG
European Research Area Directorate
Co-ordination of community activities – links with other policies
Tl. +32 2 296 8445
Fx. +32 2 295 7729
dimitri.corpakis@cec.eu.int

The full text of the strategy paper can be downloaded at http://www.cordis.lu/rtd2002/era-debate/cec.htm#regional

Case Study

Spillover effects

Planning future innovation support can be difficult, especially when there is little information on the current local situation. The answer is to involve the right people – and to apply a proven 'bottom-up' methodology.

"There were resources here before the project began, of course, but they were largely unconnected," says Guiseppe Rossi, co-ordinator of Calabria's Regional Innovation Strategy (RIS) project. "And our knowledge of the overall state of innovation in the region was not really codified." Three years on, the situation is very different.

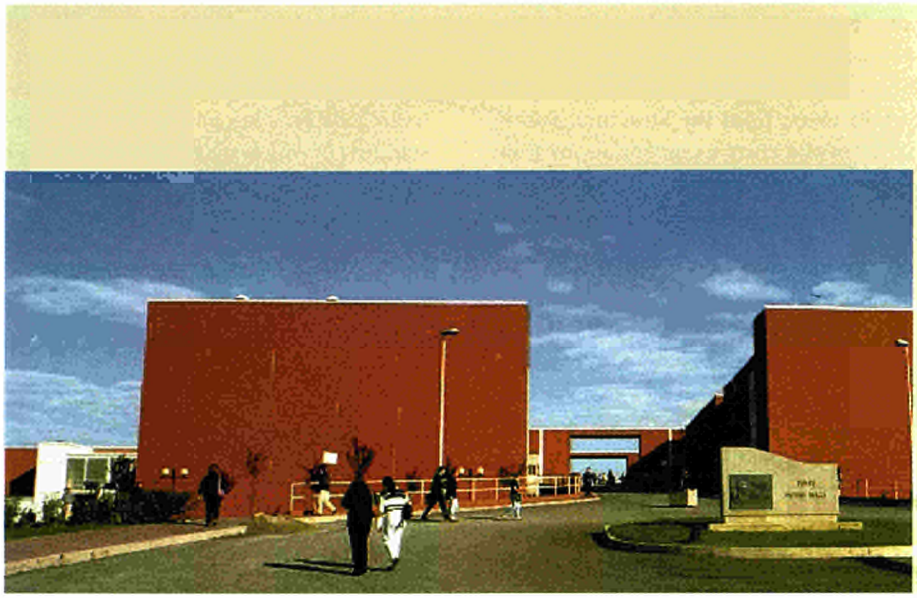
It took time to persuade policy-makers, innovators and intermediaries of the value of the RIS 'innovation audit'. From the outset, the steering committee widened its scope to address business implications, the environment and infrastructure, as well as purely technological aspects. The early work focused on data collection. Once the region's main sectors – wood, textile and metal manufacturing, tourism and agro-industry – had been identified, large numbers of the key actors were contacted, along with local policy-makers and universities. The aim was to achieve a grass-roots definition of the region's current innovation dynamics.

After 18 months, a turning point was reached when the co-ordinators presented their analysis of the mass of information to entrepreneurial associations and business leaders. In the context of the Structural Fund programme being discussed at the time, this gave considerable credibility to the whole project.

Strategic planning

The RIS process offered a way to bring the region's main players together to assess the existing state of affairs in their area, enabling them to identify priorities and plan future provision for innovation support. "A well-tested methodology based on a 'bottom-up' approach proved to be very helpful," explains Rossi. Many of those involved knew each other already, but this was their first opportunity to discuss these issues in a coherent way. "A local network, which continues to thrive today, grew up almost by itself," continues Rossi, who believes that such lasting benefits represent one of the project's most important outcomes.

>>>



The University of Calabria – one of the research institutes playing a leading role in the region's innovation provision.

Despite being Italy's least developed region, Calabria is one of the first of the country's Objective 1 areas to produce an innovation plan. The detailed local knowledge provided by the RIS project's large group of participants was a major contributing factor in achieving this. In 1999, when strategic planning for the period up to 2006 for the Structural Funds began at regional and national levels, those involved found that many of the topics which had featured in RIS were relevant again.

"At first, we had to work hard to convince people that the project was not just a waste of their time. Suddenly our core themes – innovation, environment and local development – took centre stage for the country as a whole," Rossi remembers. The same experts with whom he was working on the RIS project became involved in the wider planning process, and in many cases they took the RIS methodology with them. The original informal network had achieved critical mass and was beginning to pay dividends.

At the same time, work was under way to improve the use made of university capabilities. Historically, there had been little transfer of technology and know-how between the region's technology sector, research institutes and small enterprises. The RIS action plan prioritised improvement in this area and, as a result, a previously neglected component of the regional innovation system now enjoys a much higher profile.

Measure of success

Rossi is aware that this is only a beginning. The impacts of the RIS project will be long-term, and are difficult to quantify objectively at this stage. As a measure of success, he points to the 'toolkit' that has been devised – which will be supported by the Regional Operational Programme. This includes a number of interface tools, like liaison offices, technology centres and laboratories, together with enterprise audit procedures designed to assess innovation needs.

The co-ordination and management of local initiatives have been further improved by the unification of the RIS project Steering Committee with the Regional 'Consulta' – a group representing universities, entrepreneurial associations and regional, national and European administration, to supervise and update the Regional Innovation Plan. Pilot projects, including the design of a liaison office and a prototyping technology centre, are also being supported. And universities, entrepreneurs and firms from the mechanical sector are involved in defining expectations, priorities and an overall approach.

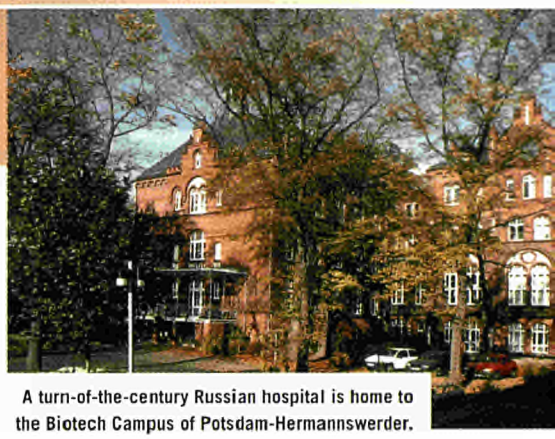
Awareness of the importance of innovation issues has certainly been increased by the RIS process. In particular, attitudes have changed dramatically among universities and the business community, both of which now see the potential for fruitful ongoing collaboration. "This is a step change," concludes Rossi. "In just two or three years, such collaboration has become routine. This is very exciting for our region's future." ≡

Contact
G. Rossi, RIS Calabria
Tl. +39 0984 467758
Fx. +39 0984 467684
ris@calnet.it
http://www.calnet.it/ris/

Case Study

Brandenburg concerto

The RITTS project in Brandenburg revealed a need for new ways to address the weakness of the region's small companies, and to harness the very different strengths of business managers from east and west.



A turn-of-the-century Russian hospital is home to the Biotech Campus of Potsdam-Hermannswerder.

The RITTS project provided the framework for an 'innovation concept' for the German state of Brandenburg. The process, begun in 1999 and completed in mid-2001, aimed to broaden a 'technology concept' dating from 1994. While the earlier approach had targeted high-tech business development, the new innovation concept was designed to encourage innovation in traditional companies as well. "We want to use technology to boost the competitiveness of our conventional industries," says Dr Andreas Timmermann, head of research and technology for Brandenburg's Ministry of Economics. "We are also broadening our focus to include the communities that support business, such as those of education and scientific research."

Regroup, rebuild, reactivate

Brandenburg's business climate is unique. For the 40 years that the region was divided, eastern industry had no real contact with the 'outside world', and a business support infrastructure was virtually non-existent. Reunification changed everything – from one day to the next – and Brandenburg was left with the onerous task of rebuilding its entire innovation base, almost from scratch.

"Before 1989, there were no universities in Brandenburg. Now there are three, one of which reopened after being closed for more than a century," Timmermann explains. "Everything is new – and this creates problems, since new institutes need time to settle, recruit, and find their place in the scientific and business communities."

Brandenburg's businesses are also, for the most part, young and inexperienced. Fewer than ten large companies are based in the state, and more than 90% of enterprises have less than 15 employees. Most entrepreneurs come from academic or scientific backgrounds, and have little understanding of management and marketing. Managers from the former East Germany find it difficult to come to terms with the unfamiliar culture of competition. And for many, their second language is Russian rather than English. "In the life science field, collaboration with British or American companies is essential, and the language barrier makes this much harder," says Timmermann. "On the other hand, former East Germans are much readier to improvise than their western counterparts, and are more creative problem solvers. They also have a real advantage when working with partners in Eastern Europe. They know the networks and benefit from their ability to reactivate old contacts."

United we stand

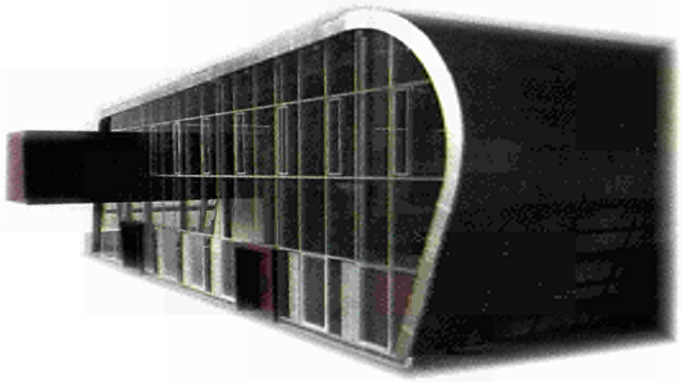
Brandenburg's innovation concept identified five objectives – create and maintain innovation workplaces, increase investment in innovative sectors, develop the state as a centre for innovation, improve the promotion of innovation, and achieve effective co-operation with the neighbouring state of Berlin. This last aspect is critical. "Although we were separated for so long, our two states are now in the same economic region and can benefit from combining our resources and from joint marketing," explains Timmermann.

In the RITTS project, his ministry carried out an in-depth analysis of the economic situation, technology developments, and current innovation trends in Brandenburg and beyond. Officials from other state ministries contributed their knowledge and ideas to the analysis. Through the Innovating Regions in Europe network, the project was also able to draw on experience from other parts of Europe. "Many of the challenges facing small companies are common to all Member States, and advice from other regions on the best ways to handle similar issues was extremely valuable," says Timmermann.

Focus and flexibility

Leveraging the strengths and opportunities revealed in the analysis, the innovation concept sets out a range of concrete measures to be implemented. At its core is the promotion of four technology platforms – life sciences, media and communications technology, enabling technologies, and mobility and resources management. "We are focusing on areas with

>>>



The new Intelligent Lightweight Materials Institute at the University of Cottbus will give Brandenburg businesses valuable networking opportunities with larger enterprises from across Europe.

the greatest promise," Timmermann says. "For example, Brandenburg-Berlin is home to six universities with strong expertise in the natural sciences. Companies have a great opportunity to recruit qualified young people."

Other measures include coaching programmes to assist companies in areas of weakness like management and marketing, while some address the imbalance between large and small companies in the state. Small firms commonly develop rapidly through partnership with larger enterprises, but as there are so few big companies in Brandenburg other strategies are being deployed. In 2002, a new institute specialising in intelligent lightweight materials – important for the automobile and aeronautics industries – will open at the University of Cottbus, for example. The institute will support businesses from the region as well as larger companies from across Europe. "This will create substantial opportunities for the region's small businesses to network with larger firms," says Timmermann. ≡

Contact

A. Timmermann,
Brandenburg Ministry for Economic Affairs
Tl. +49 331 8661 775
Fx. +49 331 8661 730
andreas.timmermann@mw.brandenburg.de
http://www.tina-brandenburg.de/ritts/

Trans-Regional Innovation Project

New media messages

Branching out – Tony Newson (left) and David Deighan establishing transnational links with Pauliina Pikkujamsa from the Northern EU TRIP project in Finland.

Regional development agencies know how to support manufacturers, but have less experience of the new service providers in the media and IT sector. A recent study discovered effective ways to help smaller companies in this emerging field.

As European manufacturing declines in the face of competition from the developing world, service companies are moving in to fill the economic gap. Their assets are the know-how and imagination of their people rather than machinery and production processes, and they need a special kind of support.

In the TRIP project, Tresp (Trans-Regional Services Support Programme), Ireland's Shannon Development Company and the United Kingdom's Welsh Development Agency (WDA) joined forces to learn how to support growth in this sector. They focused on high value-added services in multimedia, software, ICT consulting and virtual logistics, which depend on electronic communication and thrive in peripheral regions where costs are lower.

People businesses

"Detailed research into the needs of over 100 new media firms revealed strong similarities between Wales and the West of Ireland," says co-ordinator David Deighan of Shannon Development. "In both regions the top concern was markets and marketing, followed by human resources. Next came product development, strategic planning and new technology. The main difference was that in Ireland access to capital is less of a worry."

The practical initiatives undertaken in the two-year pilot were based on these findings. New media companies have little infrastructure or business skills. "To help them develop new markets, we took their senior people through a manage-

ment programme called Going for Growth," explains Tony Newson of the WDA(1). "Two intensive weekends in each region focused on marketing, product development, access to capital and recruiting and retaining staff."

Networking the key

The survey had also found that sectoral networks helped companies to collaborate, achieve critical mass and compete. Both regions created networks for their new media clusters, based on contact databases and job information. The New Media Group (NMG) Wales was relaunched within the Welsh Media Agency, Sgrîn(2). NMG gives its members a private chat room, promotes them at international festivals and put 32 new media companies into the *Made in Wales* directory.

In Ireland, AMnet (Atlantic Media Network) was established(3). "Over 100 companies came to the AMnet launch to hear Rudolph Burger of Medialab Europe, the Dublin research node set up by the Massachusetts Institute of Technology," says Deighan. "AMnet facilitates business-to-business contacts and counters the pull of companies on the east coast."

Fitzpatrick Data Communications of Limerick and leading web agency Sequence Collective of Cardiff found Tresp highly focused and practical. "Since taking part, we have trebled turnover and staff and now need larger premises," says Richard Baker of Sequence.

A key objective was international growth. Through the IRE network, links have been established with northern Finland and Sweden, the Netherlands and Salzburg. The partners are creating a network of networks (Netnet) across Europe, and joining the Transatlantic Interprise Venture promoted by Eurada(4) and INEDC(5) to promote collaboration between small and medium-sized enterprises in America and Europe. ≡

(1) Now with the South Yorkshire Objective 1 Executive Programme Directorate.

(2) www.sgrin.co.uk/newmedia

(3) www.amnet.ie

(4) The European development agency organisation.

(5) The US International Economic Development Council.

Contact
D. Deighan, Shannon Development Company
Tl. +353 61 336 555
deighand@shannondev.ie

Regional Foresight

With the benefit of foresight ...

Linked projects within the European Union's Human Potential research programme are giving regional decision-makers access to long-term strategic analysis – adapting national thinking to regional needs and helping to improve the use of available human and technological resources.

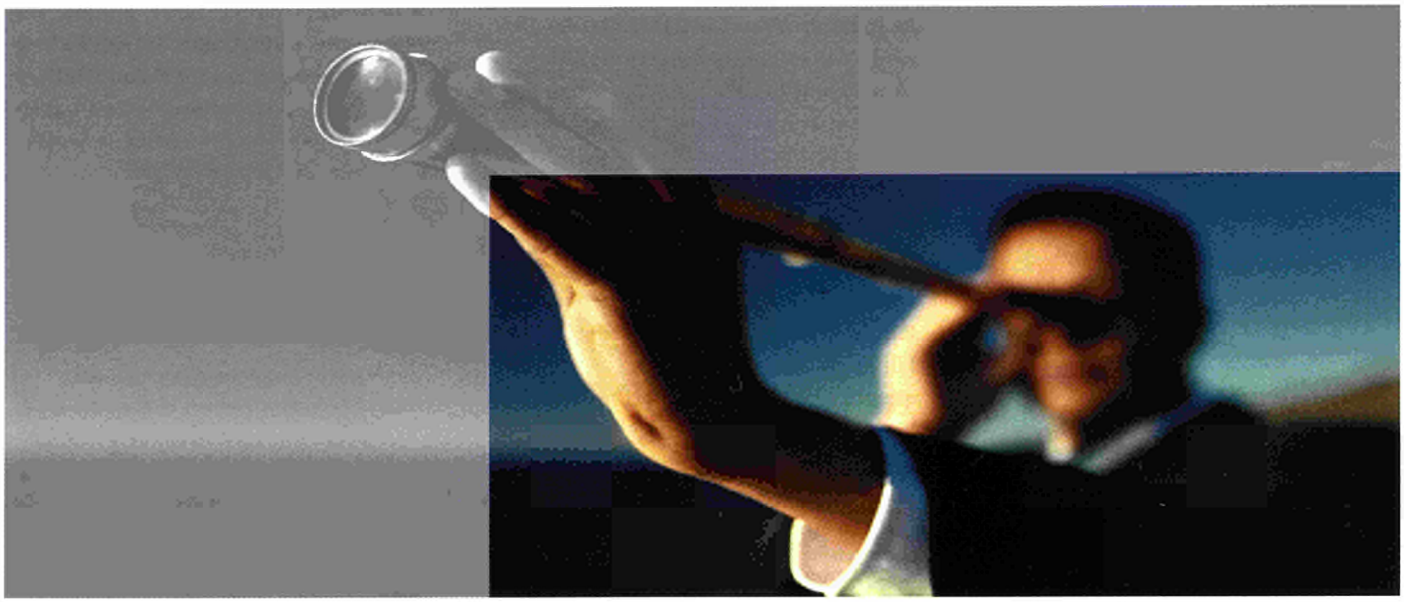
"Foresight is a vital tool for improving knowledge management," says Günter Clar of the Foresight unit of the European Commission's Directorate-General for Research. "Strengthening job prospects and stimulating social and economic mobilisation, it is key to the Lisbon process and to the development of the European Research Area."

Beyond the veil

Foresight is a method for improving long-term decision-making, especially for innovation policy. It involves looking systematically into the longer-term future of science, technology, the economy and society, with the aim of identifying areas for strategic research and emerging technologies likely to produce the greatest economic and social benefits(1). According to James Gavigan, co-ordinator of the Foren project, foresight enables strategic planners to enter the realm beyond what is normally predictable, and to evaluate key long-term uncertainties and their implications for current decisions.

Foresight has become well established in several countries, making a critical input to national science and technology policy. Implementing it at the regional level has been more difficult – but here, too, it can influence policy-makers, academics and enterprises. The Strata (Strategic Analysis of Specific Policy Issues) activity of the Fifth Research Framework Programme's Human Potential programme has sponsored the deployment of regional foresight through two related projects – Foresight for Regional Development (Foren) and Four Motors Foresight (Fomofo). >>>

(1) Ben Martin, Science Policy Research Unit, University of Sussex, UK.



Adapting national foresight methods will help regions to exploit their strengths.

Future-proofing

The Foren network(2) brings together 26 organisations specialising either in foresight methods or regional development, from ten EU regions and from Hungary. It has examined each region's special features and priorities and identified good practices as the basis for future pilot projects. Gavigan says that national foresight approaches need adjustment for the regional level, where the mix of technological, economic and social issues is different, and where action is constrained by the extent to which decision-making is devolved. The aim, he says, is to 'future-proof' regional strategy beyond normal planning horizons. Foren's outputs include a practical guide for those wishing to apply regional foresight, and a December 2001 conference on creating and applying vision in the regions.

Fomofo is among the first practical examples of regional foresight. The one-year project links regional teams from the established partnership of Catalonia, Rhône-Alpes, Lombardy and Baden-Württemberg. Co-ordinator Matt Staton says that although most foresight exercises take much longer, "There is room for an initiative like Fomofo, because many regional players would prefer to see faster results."

Each of the four teams(3) is working with its regional government to examine strategic issues affecting two sectors encompassing both high-tech and more traditional companies, and SMEs as well as larger firms. In Germany, the chosen sectors are multimedia and biotechnology, in Italy metal-working and silk, in France metallurgy and textiles, and in Spain publishing and graphic arts, and pork products. In each sector, the foresight teams and their regional government partners are working closely with a wide range of stakeholders to develop, implement and disseminate foresight methods and good practice guidelines. They hope to demonstrate practical, flexible ways to apply existing foresight knowledge and experience in the regions. "This offers regions a very powerful tool," says Staton. "I would like to see it become a common feature of regional planning in Europe – a future-looking complement to Regional Innovation Strategy projects, and as widespread as they are."

Spreading the word

The next generation of initiatives includes eForesee (Exchange of foresight relevant experiences for small European and enlargement countries). Starting in January 2002, it will run two pilot projects in each of three accession countries. Malta's government is interested in the themes of tourism and cultural heritage, and aquaculture, Cyprus' in environmental management and agriculture, and Estonia's in IT, materials science and nanotechnology, while biotechnology interests all three. The studies will build the countries' capacity for policy formulation by examining the cross-sectoral aspects of these key development areas. Likely topics include knowledge management, biosciences and foresight as a tool for the accession countries. "We want to show that a lot can be done to improve innovation policies, even when resources are scarce," says Clar. A second project starting in 2002, TAMI, will assess the effectiveness of technology foresight and its impact on science, technology and innovation policies in Europe. ≡

(2) The participating regions are Western Hungary, Uusimaa (Finland), Ireland, Lombardy (Italy), Stuttgart City Region (Germany), Andalusia and Valencia (Spain), Flevoland (Netherlands), Wales, North East England and Yorkshire and Humberside (UK).

(3) The FOMOFO regions are Baden-Württemberg (Germany), Catalonia (Spain), Lombardy (Italy) and Rhône-Alpes (France).

Contacts

G. Clar, European Commission
Research DG
Technology foresight and socio-economic research Directorate
Technology foresight – relations with IPTS
Tl. +32 2 295 3400
Fx. +32 2 295 8865
guenter.clar@cec.eu.int

J. Gavigan, European Commission
Joint Research Centre
IPTS (FOREN)
Tl. +34 95 44 88 319
Fx. +34 95 44 88 326
james.gavigan@jrc.es
http://foren.jrc.es/
http://www.cordis.lu/improving/strata/foren.htm

M. Staton, Iale Tecnologia SL (FOMOFO)
Tl. +34 93 73 39 640
Fx. +34 93 78 91 123
staton@iale.es
http://www.foresight.it/
http://www.cordis.lu/improving/strata/fomofo.htm

Regional foresight is the subject of a special issue of The IPTS report (issue 59, November 2001), available at http://www.jrc.es/pages/f-report.en.html

ERDF Support

A new lease on life

A business incubator in London, which is supported by both national and European Union funding, has helped a high-tech company to rebound, survive and thrive.

Weber Broutin UK Ltd

The TGTC, home to more than 15 high-tech companies, is part of the University of East London Docklands Campus. Overlooking the Royal Docks, UEL's €64m facility is the first campus to be built in London for 50 years.

There are around 600 'business incubators' in Europe today, and the number is growing steadily. Their principle is simple – new companies are fragile, but with direct access to appropriate assistance, resources and expertise at the outset, they are more likely to prosper later on. Most start-ups rely almost entirely on their founders' energy. Incubators offer a means to capitalise on this entrepreneurial spirit by shielding it from excessive early demands. Luckily – as XOR Ltd, a British multimedia company, discovered – they can also help to give new life to established firms.

Helping hands

XOR had been in business for seven years before it recognised a critical need to refocus. When the company sought outside help, advisors from the government-funded Business Link directed it to the Thames Gateway Technology Centre (TGTC), a high-technology incubation facility established as part of the University of East London Dockland Campus. "The centre was primarily designed for start-ups," explains Dr Razak Grady, a former TGTC business co-ordinator and founding member. "But existing companies in need can clearly also benefit from the broad support and resources available."

TGTC is funded by a range of national and European Union sources, including the European Regional Development Fund (ERDF), which aims to reduce disparities between regions and social groups. In this case, ERDF funding comes from the UK's Objective 2 programme which supports local and regional innovation strategies in urban areas that meet specific criteria.

Resurrection

The turnaround at XOR has been spectacular. "The company had full access to the resources and expertise of the university as well as those of the centre itself," says Grady. "It made use of the university's state-of-the-art multimedia production centre and received ongoing assistance from students and faculty." In addition, XOR benefited from networking opportunities and training offered by the centre on generic topics like creativity management.

With TGTC help, XOR not only got back on its feet but is currently on target to almost triple its turnover from €400,000 to a projected €1.1 million for next year, while its staff has grown from eight to 12. It has successfully launched a new product, Xtensis, which offers a unique customisable multimedia platform for e-learning and knowledge management, and has already been taken up by a wide range of education and training organisations – including the UK Department for Education and Skills, Cyntergy Ltd, the University of Hull and the University of East London itself.

"The centre helped XOR to refine its strategic business focus," says Grady. "It was targeting a range of diverse sectors. But after analysing the business' strengths, the owners began to focus on the e-learning and knowledge management areas – in which being university-based has proved a real advantage." ≡

Easy access to incubators

In November, Enterprise Commissioner Erkki Liikanen unveiled a new online service to help companies locate qualified business incubators. Available on CORDIS, it includes a database of 600 incubators located across the EU. Users can search by country, key word or organisation to access descriptions and contact details.

Contact

http://www.cordis.lu/innovation-smes/incubators.htm

Contacts

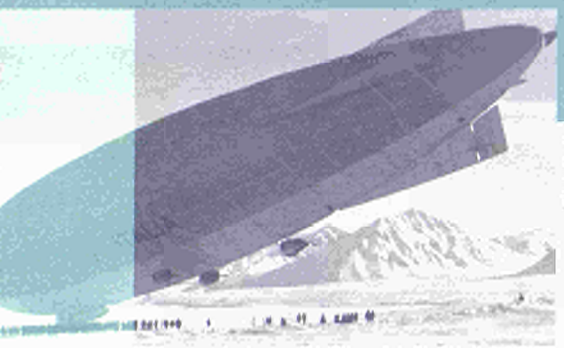
R. Wheeler, TGTC
Tl. +44 208 223 3388
Fx. +44 208 223 3327
r.wheeler@uel.ac.uk
http://www.tgtc.co.uk/

J. O'Sullivan, XOR Ltd
Tl. +44 208 223 7492
Fx. +44 208 223 7502
john@xor.ltd.uk
http://www.xor.ltd.uk/

R. Grady, Tekstrategy Ltd
Tl. +44 208 223 7781
Fx. +44 208 223 7502
razak@tekstrategy.co.uk
http://www.tekstrategy.co.uk/

Digital heritage

Film developments



Istituto Luce

ECHO'S powerful digital system makes historical footage from a number of European archives easily accessible, for the first time, to a wide variety of users.

All 'heritage' keepers face similar challenges in managing their assets, but those who safeguard film have to deal with additional and unique demands. The application of new technology, and collaboration between the right mix of partners, provide the way forward.

Advances in digitisation have revolutionised film conservation. But, as Patricia Manson of the European Commission's Directorate-General for Information Society explains, physical preservation is only part of the story. "Intellectual property rights and copyright are major issues in providing accessible archiving."

Technical research – to improve the restoration of damaged film, create new methods for retrieval and access, and develop tools for creating and managing digital archives – remains central to the Information Society Technologies programme's 'digital heritage and cultural content' action. But societal and commercial concerns are also addressed. As Manson points out, "Sustainability issues like good business models for reusing the material, for example, are as vital for long-term success as straightforward technology exploitation or knowledge transfer."

Loud echo

The ECHO project[1], for instance, which has been running for nearly two years, aims to provide a distributed digital library service for films held by large national archives. The participating institutions in France, Italy, the Netherlands and Switzerland hold unique collections of documentary material dating from the 1920s onwards, making them enormously valuable as historical records of social, cultural, political, and economic life in different European countries throughout the 20th century.

"The possibilities are really exciting," says Manson. "It is not only about improving access to historical records. The project also allows new contextual considerations and links which would have been impossible before. The same events can be viewed from quite different cultural perspectives." To achieve this, the partners are developing web-based multimedia platforms to create a powerful user interface. Extended mark-up language (XML) is used to provide a searchable, descriptive meta-data layer for the content, improving both the accuracy and speed of retrieval. Voice recognition is being added to allow automatic production of transcripts, and the next stage will see improved image-object identification to make searches faster and more accurate.

Access

The potential for commercial exploitation will be critical. Content owners have played an active role in the partnership, alongside technology developers and research institutes. Although the multimedia library they are building will be openly accessible via the internet, the source material itself will reside within the individual national archives. This allows it to be seen by a wide audience while protecting the rights of the owners, since they retain some control over the terms of viewing.

Manson points out that her remit is not to make judgements about the worth of material, but to support improvement of the technology and its application in ways that bring social, cultural and commercial benefits. "But it is always more interesting when the content itself has such clear value, as it does in the case of the ECHO project," she confesses. ≡

(1) IST-1999-11994 – European chronicles on-line.

Contacts

P. Manson, European Commission
Information Society DG
Information Society Technologies – content, multimedia tools and markets Directorate
Cultural heritage applications
Tl. +352 4301 33261
Fx. +352 4301 33530
patricia.manson@cec.eu.int
http://www.cordis.lu/ist/ka3/digicult/home.html
http://www.cordis.lu/ist/ka3/digicult/en/filmher.html

The ECHO project website is at
http://pc-erato2.iei.pi.cnr.it/echo/

Innovation for Sustainability

13-14 March, Amsterdam (Netherlands)

Leading speakers will discuss strategic and practical dilemmas related to sustainability, technology and market acceptance at this international congress for decision-makers and strategists in business, research institutes, universities and government. Themes include 'How does sustainability influence companies' R&D policies?' and 'New methods of technology development – market acceptance through the involvement of stakeholders'.

Contact

http://www.eet.nl/conference/

Advanced Microsystems for Automotive Applications

21-22 March, Berlin (Germany)

The annual AMAA is an international forum for representatives of the car industry and suppliers of electronics and microsystems technology components (MST/MEMS/MOEMS). It offers a platform for technology transfer by combining application-oriented conference papers with the presentation of technological innovations and integrated systems, and participants will learn more about the current industry trends and developments as well as benefiting from exchanges of experience.

Contact

S. Krüger, IRC Northern Germany, VDI/VDE-IT
Tl. +49 3328 435 269
Fx. +49 3328 435 105
amaa@vdivde-it.de
http://www.amaa.de/

Food industry technology transfer event

26-27 March, Nancy (France)

In parallel with the annual meeting of Agoral (the Association of chemists and engineers and agricultural and food industry managers) a brokerage and technology transfer event will be organised by the Innovation Relay Centre Alsace-Lorraine. This targets in particular small and medium-sized enterprises and technical or scientific centres, although anyone seeking innovative technologies in the food industry field is welcome.

Contact

M. Popkowska, IRC Alsace-Lorraine
Tl. +33 3 8736 9021
Fx. +33 3 8736 9020
popkowska@reseau-attelor.org
http://www.agoral.org/
http://www.reseau-attelor.org/

Gate2Growth annual conference

9-10 April, Stockholm (Sweden)

This event will bring together the main components required for the successful creation of innovative start-up companies – venture capitalists, advisors, entrepreneurs and intermediaries. It will provide opportunities for networking, and for discussion of issues such as patent protection, the academic-industrial interface, and financing opportunities.

Contact

G. Antonelli, Europe unlimited
Tl. +32 2 643 7179
Fx. +32 2644 6581
gate2growth@e-unlimited.com
http://www.e-unlimited.com

1st IRC network annual brokerage event

18-19 April, Hanover (Germany)

A major technology brokerage event is being organised by the IRC-IRE Central Unit in conjunction with the Innovation Relay Centres of Lower Saxony/Saxony-Anhalt and Finland, within the framework of the Hanover International Industry Fair 2002.

The event will focus on the fields of nanotechnology, measurement technology, new materials and automation technology. It will provide a unique opportunity for companies and research institutions to meet and discuss possible transnational technology transfers, co-operation, joint ventures and industrial subcontracting agreements. Company and laboratory profiles will be published on the event's website, allowing individual timetables of meetings between interested participants to be arranged before the meeting.

Contact

L. Martensson, IRC-IRE CU
Tl. +352 44 1012 2088
Fx. +352 44 1012 2055
l.martensson@irc-ire.lu
http://hannover.ircnet.lu

USE-it! – New concepts for the promotion of academic entrepreneurship

24-26 April, Bonn (Germany)

This event is jointly organised by the partners of the three closely-linked PAXIS projects, Usine, Spinnova and Embryo – each of which is developing models, approaches and tools to support the creation of innovative start-up companies from universities. The three projects will present the concepts they have been testing for the promotion of academic entrepreneurship, as the basis for wider discussion by an audience of technology transfer agents, industrial liaison officers, university spin-off managers and investors.

Contact

B. Wirsing, EuroConsult
Tl. +49 228 733 073
Fx. +49 228 731 982
wirsing@uni-bonn.de
http://www.usine.uni-bonn.de/use-it/

Environmental technology transfer days (IFAT 2000)

15-16 May, Munich (Germany)

At IFAT, Europe's largest trade fair for environmental technologies, the Innovation Relay Centre network's environment thematic group will organise two days of individual, prearranged technology partnership meetings. Aimed at small and medium-sized enterprises active in environmental technologies, there will be a special focus on participants from accession countries. Day one will deal with technologies for waste treatment, recycling and integrated product planning, and day two technologies for site remediation, water and wastewater treatment.

Contact

IRC Bavaria, Bayern Innovativ
Tl. +49 911 20671 20
Fx. +49 911 20671 22
goerlitz@bayern-innovativ.de
http://www.bayern-innovativ.de/news/termine/

IST 2002

16-19 June, Thessaloniki (Greece)

The IST (Information Society Technologies) mobile and wireless technologies summit 2002 will focus on national, European and international research programmes and the developments expected from them. The IST programme of the European Union's Fifth Framework Programme will receive particular focus, as many of its projects are in the final year and are close to having demonstrable results.

As well as researchers and academics, and private-sector representation, the event organisers hope that a large number of non-European participants will be present, in order to showcase the results.

Contact

http://www.iti.gr/summit2002/

Innovation policy issues in six applicant countries: the challenges

The European Commission has published the final report of a study of innovation policy in Hungary, Poland, Czech Republic, Slovenia, Estonia and Cyprus. It examines selected innovation indicators to offer a comparative overview of the current innovation environment, new developments and the enlargement process as well as the challenges ahead for policy-makers and stakeholders. The report also includes profiles of each individual country and proposals for a benchmarking initiative along the lines of the Innovation Scoreboard.

Contact

The full text of the report is available from http://www.cordis.lu/innovation-smes/src/studies.htm

New IRE network website

The IRC-IRE Central Unit has launched the new public website of the Innovating Regions in Europe network, providing comprehensive, up-to-date information about regional innovation policies and policy initiatives across Europe. As well as reports on individual regional innovation strategies, the site includes an updated list of contacts. Sections focusing on the new IRE Thematic Networks and the Regional Innovation Strategies in the Newly Associated Countries (see this edition, page 2) will be developed over the coming months.

Contact

http://www.innovating-regions.org/

Regions: Statistical yearbook 2001

KS-AF-01-001-EN-C, ISBN 92-894-1040-X; €60.00 (print) or €30.00 (electronic)

This Eurostat publication gives the latest statistics on economic and social factors in the regions of the European Union. Coloured maps and graphs, together with commentaries and explanatory texts, present the interrelationships of these main regional indicators at a level of detail not previously attempted.

Gender impact assessment of the Fifth Framework Programme specific programmes: Promotion of Innovation and Encouragement of participation of SMEs

EUR 17045

This report, published by the European Commission last July, assesses the participation of women among the contractors, evaluators and policy-makers involved in the Innovation and SMEs programme. It finds that in no group does participation reach 30%, although this conclusion was hampered by the lack of gender-disaggregated statistics. The report recommends improvement in the collection of gender data, as well as greater attention to issues of gender in the programme activities.

Contact

The full report, and an executive summary, are available at http://www.cordis.lu/innovation-smes/src/library.htm#gender

Note

Publications are free unless otherwise stated. If specific contact information for obtaining a publication is not supplied, and there is a price listed in euros, then the publication can be purchased from the sales and subscription office in your country of the Office for Official Publications of the European Communities (EUR-OP). Addresses can be found in most EU publications, on the WWW (http://eur-op.eu.int/general/en/s-ad.htm) and by contacting EUR-OP (fax: +352 2929 42759).

R&D expenditure and personnel in Europe in 1999 and 2000

KS-NS-01-006-EN-I

The November 2001 edition of Eurostat's Statistics in Focus series on Science and Technology show that the European Union's R&D expenditure increased by 5.6% in constant prices during 1999, and by 2.3% in 2000. As a proportion of gross domestic product (GDP), research spending fell back slightly from 1.92% in 1999 to 1.90% in 2000. Small changes are also evident in sectoral spending. By comparison, total spending in the US and Japan amount to 2.64% and 3.04% of GDP respectively, exceeded in the EU only by Sweden (3.8%) and Finland (3.19%).

Contact

http://europa.eu.int/comm/eurostat/